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COMPETITION AND MONOPOLY IN AMERICAN INDUSTRY

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MONOGRAPH NO. 21

COMPETITION AND MONOPOLY IN AMERICAN INDUSTRY

CLAIR WILCOX

II

ACKNOWLEDGMENT

This monograph was written by

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The Temporary National Economic Committee is greatly indebted to the author for this contribution to the literature of the subject under review.

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LETTER OF TRANSMITTAL

Hon. Joseph C. O'Mahoney,
Chairman, Temporary National Economic Committee,
Washington, D. C.

My Dear Senator: I have the honor to transmit herewith a study by Dr. Clair Wilcox on Competition and Monopoly in American Industry. It gives an audit of the status of competition industry by industry. Instead of looking only at monopolistic practices or focusing attention exclusively on areas of enterprise characterized by concentration of economic power, it pictures the process of industrial agglomeration against the perspective of the entire economy at work.

The Committee was highly fortunate in securing the services of Dr. Wilcox to make this all-important survey. He has served the Government, in the past, as director of research for the National (Wickersham) Commission on Law Observance and Enforcement, special adviser to the Consumers' Advisory Board of the National Recovery Administration, and consulting economist to the Social Security Board. The facts presented and conclusions here expressed represent the culmination of many years of continuous effort implemented by access to vital information such as only few have enjoyed. Words are inadequate to express the measure of grateful appreciation which is owed by the Committee to Dr. Wilcox for this contribution.

Invaluable assistance in the preparation of this study was rendered by Dr. William N. Loucks and Mr. Kermit Gordon. Aid and criticism were also received from numerous persons outside of Government who furnished materials or read sections of the monograph. All responsibility for errors of fact or conclusion rest, of course, with the author.

Respectfully submitted.

Theodore J. Kreps, *Economic Adviser.*

October 8, 1940

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C. W.

SWARTHMORE, PA., *October 15, 1940.*

CHAPTER I

THE NATURE AND SIGNIFICANCE OF COMPETITION AND MONOPOLY

It is the purpose of the present monograph to outline certain of the areas of American industry which have been characterized by competitive or by monopolistic conditions at some time during the period since the end of the First World War. For convenience, the market situations described are roughly divided into those in which competition appears normally to obtain, those in which one or two firms are in control of nine-tenths or more of a supply, those in which firms are few in number or in which one or more firms, controlling less than nine-tenths of a supply, occupy a position of dominance, and those in which, though firms may be numerous and none of them dominant, some form of common control over price and production appears to govern the trade. The classification is an economic rather than a legal one, since many of the situations described within the three latter categories have the explicit sanction of law. The list of industries included cannot be exhaustive. The assignment of specific industries to any one of these categories cannot be precise; a certain amount of overlapping is not to be avoided. But the monograph as a whole is believed to present a reasonably adequate summary of the evidence available on the principal areas of competition and monopoly in American industry during the period under review.

The summary is prefaced, in this chapter, by a general discussion of the nature and significance of competition and monopoly. These terms have been variously defined by economists and businessmen. It will therefore be necessary, before an effort is made to explore the prevalence of competitive and monopolistic conditions in the American economy, to examine their several meanings and to indicate the sense in which each of them is here to be employed. The chapter presents these definitions and outlines the respective advantages and disadvantages of competitive and monopolistic behavior for the economy as a whole. The study makes no attempt to determine whether the public interest, in specific fields, would be better served by competition or monopoly or to decide what public policy should be. The preliminary discussion is designed merely to clear the ground for the factual survey which follows.

THE NATURE OF COMPETITION

Competition has many different meanings. The term always denotes the presence in a specific market of two or more sellers and two or more buyers of a definite commodity, each seller acting independently of every other seller and each buyer independently of every other buyer. But the term usually carries a further connotation.

There is perfect competition, pure competition, imperfect competition, monopolistic competition, non-price competition, oligopolistic competition, cut-throat or destructive competition, predatory and discriminatory competition, unfair and fair competition, potential competition, and effective or workable competition. Each of these concepts will be examined in turn.

PERFECT COMPETITION

The requirements of perfect competition are five: First, the commodity dealt in must be supplied in quantity and each unit must be so like every other unit that buyers can shift quickly from one seller to another in order to obtain the advantage of a lower price. Second, the market in which the commodity is bought and sold must be well organized, trading must be continuous, and traders must be so well informed that every unit sold at the same time will sell at the same price. Third, sellers must be numerous, each seller must be small, and the quantity supplied by any one of them must be so insignificant a part of the total supply that no increase or decrease in his output can appreciably affect the market price. Buyers likewise must be numerous, each buyer must be small, and the quantity bought by any one of them must be so insignificant a part of the total demand that no increase or decrease in his purchases can appreciably affect the price. Under these circumstances, the seller who sets his price above the market level will sell nothing and the seller who sets his price below this level would get all of the business were it not for the fact that he lacks the capacity to handle it. No seller will be able to get more than the market price; no seller will need to take less, since he can sell at the prevailing figure whatever quantity he is equipped to produce. Each seller will therefore take the market price as given and adjust his output to it, carrying production up to the point where the cost of producing an additional unit will equal the income that can be derived from its sale. Similarly, since no buyer will be able to obtain a supply at a figure below the market price and no buyer will need to pay more than the market price to obtain whatever quantity he desires, each buyer will take the price as given and adjust his purchases to it. Fourth, there must be no restraint upon the independence of any seller or buyer, either by custom, contract, collusion, the fear of reprisals by competitors, or the imposition of public control. Each one must be free to act in his own interest without regard for the interests of any of the others. Fifth, the market price, uniform at any instant of time, must be flexible over a period of time, constantly rising and falling in response to the changing conditions of supply and demand. There must be no friction to impede the movement of capital from industry to industry, from product to product, or from firm to firm; investment must be speedily withdrawn from unsuccessful undertakings and transferred to those that promise a profit. There must be no barrier to entrance into the market; access must be granted to all sellers and all buyers at home and abroad. Finally, there must be no obstacle to elimination from the market; bankruptcy must be permitted to destroy those who lack the strength to survive.

Perfect competition, thus defined, probably does not exist, never has existed, and never can exist. The term denotes the extreme of freedom from control over price, just as the term monopoly, in its strictest definition, is used to denote the opposite extreme of unlimited control over price. Actual competition always departs, to a greater or lesser degree, from the ideal of perfection. Perfect competition is thus a mere concept, a standard by which to measure the varying degrees of imperfection that characterize the actual markets in which goods are bought and sold.

PURE COMPETITION

Pure competition comes close to the ideal of perfection without completely attaining it. Under pure competition, information as to present and prospective conditions of supply and demand may be imperfect or unequally distributed; custom may restrain complete independence of action; friction may impede the movement of capital between industries, products, and firms; minor obstacles may limit access to and withdrawal from the field. But other of the conditions of perfect competition must be preserved; commodities must be standardized; sellers and buyers must be numerous and small; no one of them may control enough of the supply or the demand appreciably to affect the price; each of them must take price as given and adjust his output or purchases to it. Pure competition is said to characterize the organized commodities markets and the securities exchanges. But even here individual traders or groups of traders acting in concert have been known to control enough of the supply or the demand to manipulate the price. Pure competition undoubtedly does exist, but its occurrence is comparatively rare.

IMPERFECT COMPETITION

Imperfect competition involves a more serious departure from one or more of the requirements of perfection. Information may be hidden from traders, the composition of commodities and the prices at which sales are made kept secret. Restrictive contracts, the conventions of the trade, or the fear of reprisals by competitors may inhibit freedom of action. Serious obstacles may check the mobility of capital, hinder entrance to the field, or delay elimination from it. The conditions requisite to pure, as well as to perfect, competition may likewise be lacking. The product sold by each seller, though essentially like that sold by every other, may be so differentiated that buyers will be unwilling to shift quickly from one to another. If one seller sets his price above the market level he will not lose all of his trade to the others; if he sets it below the market level he will not attract all of their trade to himself. He may fix his price, within limits, therefore, at any figure he chooses. Sellers, moreover, may be few in number and any one of them of such size that an increase or decrease in his output will appreciably affect the prospective price. In this case, the seller, instead of taking price as given and carrying production up to the point where the cost of an additional unit would equal the income derived from its sale, will consider the probable effect of variations in production upon the price

and adjust his output accordingly. His production policy will therefore differ from that which would be followed by a seller under the conditions of perfect or pure competition. A comparable situation may obtain on the buyers' side of the market. Conditions such as these make for imperfection in competition. And since such conditions are present, to a greater or lesser extent, in many if not in most markets, it must be recognized that the occurrence of imperfect competition is common.

MONOPOLISTIC COMPETITION

Monopolistic competition is the form of imperfect competition which results from the differentiation of products by sellers. Under monopolistic competition, sellers may be numerous and no one of them may control a major part of the supply of the common commodity which all of them are offering for sale. But each seller may so differentiate his portion of the supply of that commodity from the portions sold by others that buyers will hesitate to shift their purchases from his product to that of another in response to differences in price. Products serving a common purpose may be individualized by variations in their composition, in the sizes of the units in which they are sold, in the services which accompany the sale, in style, and in such superficial matters as packaging, brand names, and sales appeal. Such differentiation may enable one buyer to charge more than another, and even to advance his price, without losing sales, always, however, within the limits set by the availability of products which may be readily substituted for his own. Monopolistic competition is thus monopolistic only up to the point where substitution takes place and competitive only beyond that point. It obtains in many markets; probably in a majority of the markets for manufactured consumers' goods in the United States.

NON-PRICE COMPETITION

Perfect and pure competition, since they require commodity standardization, pertain to competition in price alone. Imperfect and monopolistic competition, since they permit product differentiation, pertain also to sellers' competition in quality, in service, in style, and in advertising and salesmanship. Competition in quality and in service may be quite as effective in giving the buyer more for his money as is competition in price. Competition in service, however, may compel the buyer to pay for something he does not use or want as a condition of obtaining the commodity he desires. Competition in style may give satisfaction to the buyer, but it may also destroy the value of the goods he purchases by hastening their obsolescence. Competition in advertising and salesmanship are necessary concomitants of competition in quality, service, and style, but they may not, in themselves, give the buyer a value which is equal to their cost. Each of these forms of competition is a common feature of the markets for manufactured consumers' goods.

OLIGOPOLY

Oligopoly is the form of imperfect competition which obtains when sellers are few in number and any one of them is of such size that an increase or decrease in his output will appreciably affect the market price. The commodity produced by the sellers may be standardized or differentiated; the size of each seller's output in relation to the total supply is the test. In such a situation, as has been said, the seller will consider the probable effect of variations in his output upon the price and adjust his production accordingly. He will consider, also, the probable reaction of his competitors to variations in his price, and may forego the expansion in sales which he might obtain by setting his price at a lower level if he believes that they will shortly meet or undercut it. Since there are many fields in which sellers are few in number, oligopolistic competition is of common occurrence. A comparable situation, oligopsony, may obtain on the buyers' side of the market.

CUTTHROAT OR DESTRUCTIVE COMPETITION

Competition is said to be cutthroat or destructive when the existence of idle capacity and the pressure of fixed charges lead sellers successively to cut prices to a point where no one of them can recover his costs and earn a fair return on his investment. Competition which threatens to produce this result is called price warfare. Price warfare could not occur under perfect or pure competition, since the output of each seller would be so small a part of the total supply that it would be unnecessary for him to cut his price in order to increase his sales. There can be no question, however, that price wars do occur under oligopoly; that, in a metaphorical sense, at least, the throats of business enterprises are cut; that these legal entities are injured or destroyed; and that investment values suffer in the process. The railroad rate wars of the sixties and the seventies of the nineteenth century are a case in point. The difficulty with the concept lies in the ease with which it lends itself to abuse. It cannot be said with certainty that a series of price cuts is destructive unless someone has made an impartial analysis of the costs of the price cutters, determined what rate of return it is fair for them to receive, and discovered that the cut prices will not cover the legitimate costs plus the fair return. The terms cutthroat and destructive, however, are frequently applied, in the absence of any such investigation, to ordinary competition in price. Thus employed, they can have no more weight than any other epithet.

PREDATORY AND DISCRIMINATORY COMPETITION

Competition is said to be predatory when one seller cuts his price for the sole purpose of eliminating another, discriminatory when he confines the cut to a portion of his sales that competes with those made by another. He may cut prices uniformly, deliberately sacrificing present earnings in an effort to obtain future monopoly power

and profit. He may discriminate among localities, temporarily cutting his price in one area while he maintains it in others, raising it again when he has eliminated his local rivals. He may discriminate among products, temporarily cutting his price on one brand while he maintains it on others, dropping the fighting brand when it has served its purpose. There can be no question that such tactics have been frequently employed. But this concept, too, presents difficulties. The test of predation is intent, but the price cutter's purpose is known only to himself, is only to be inferred by others. In cases of flagrant discrimination the inference may be plain; in cases of general price reduction it is less so. The competitor who finds it difficult to meet another's price may well believe that his rival intends to eliminate him, but this conviction cannot be taken as sufficient proof of such intent. Every act of competition is designed to attract business to one competitor rather than another and, to that extent, to eliminate the latter from the market. The line beyond which such activity is to be denounced as predatory is not an easy one to draw.

UNFAIR AND FAIR COMPETITION

The concept of unfairness and fairness in competition has made its appearance in the opinion of the business community, in formal codes of business ethics, in common law, in the Federal Trade Commission Act, in the Commission's decisions, in the submittals presented to the Commission by trade practice conferences, in the National Industrial Recovery Act, in the codes approved by the National Recovery Administration, and in the unfair trade and fair trade laws recently enacted by the legislatures of a majority of the American States. The concept is thus ethical and legal rather than economic. Its precise content is indeterminate, since opinions, codes, laws, and decisions differ one from another and each of them may be modified with the passage of time. It would be possible in economics so to define unfair competition as to include within the concept all of those methods and only those methods which give one competitor an advantage or place another at a disadvantage which has nothing to do with their comparative efficiency in the production and distribution of goods. But relevance to efficiency cannot be taken as the accepted test of fairness, since measures involving competition in efficiency have sometimes been condemned and measures unrelated to efficiency approved. In fact, no such objective principle has been employed to distinguish between those methods which are said to be unfair and those which are said to be fair.

The fairness of many competitive practices has been, and remains, in dispute. As to certain other practices, however, agreement is general. It is considered to be unfair to take customers away from a competitor by misrepresenting the quality or the price of one's goods; to interfere with the sales of a competitor by defaming him, disparaging his products, harassing his salesmen, obstructing his deliveries, damaging his goods, intimidating his customers, bribing their purchasing agents, or inducing them to break their contracts with him, by organizing boycotts against him, or by entering into restrictive contracts with distributors which are designed to exclude him from the market; or otherwise to handicap a competitor by spy-

ing on him, stealing his trade secrets, involving him in false litigation, or inducing his employees to go out on strike, by persuading the producers of materials to discriminate against him, or by entering into exclusive contracts with them in order to deprive him of a source of supply. These and similar practices have been denounced by the legislatures and the courts and forsworn by business itself. In general, they fall within the category of acts designed to give a competitor an advantage unrelated to his productive efficiency.

In recent years the concept of unfairness has been applied to a radically different sort of behavior. The codes of fair competition approved by the N. R. A. condemned such acts as cutting a price without first informing one's competitors and waiting for several days in order to give them an opportunity to follow suit, selling at a price below some average of the costs of all the firms in one's trade, cutting a price indirectly by giving larger trade-in values, discounts, premiums, or guaranties than those given by one's competitors, expanding one's productive capacity, operating one's machines beyond a fixed number of hours, or producing a larger quantity of goods than that allowed by a quota fixed in conference with one's competitors. The unfair trade laws condemn the practice of selling goods at a price below their cost plus a fixed mark-up. The fair trade laws condemn the practice of selling goods at a price below that specified by their producer in a contract with a single distributor. In specific cases the recent employment of the concept has completely reversed its previous application. The basing-point price practice in the steel industry, condemned by the Federal Trade Commission, was required by the code of fair competition approved by the N. R. A. Resale price maintenance, repeatedly condemned by the Commission, is approved by the fair-trade laws of 44 States. The tendency appears to be toward denouncing as unfair any effort to compete on the basis of price. The effect is to rob the concept of unfairness of whatever significance it may once have had.

The terms cutthroat, destructive, predatory, and unfair have been applied almost exclusively to situations in which business units compete as sellers. They might be applied with equal logic to situations in which such units compete as buyers. Producers who were few in number might conceivably bid the prices of raw materials up to a point where no one of them could cover his costs and earn a fair return. One producer might temporarily bid up such prices for the purpose of eliminating another. Any producer, in purchasing materials, might resort to practices which others would regard as unfair. Application of these concepts to competition in buying, however, would involve the same difficulties as does their application to competition in selling. The general failure to attempt such an application may be attributed to the fact that practices objectionable to competitors have made their appearance less frequently on the buyers' than on the sellers' side of the market.

POTENTIAL COMPETITION

Potential competition, either as a supplement to actual competition or as a substitute for it, may restrain producers from overcharging those to whom they sell or underpaying those from whom

they buy. The essential condition of potential competition is the preservation of freedom to enter or to leave the market. There must be no insuperable barrier, natural or artificial, to the importation or exportation of goods, to the expansion or removal of existing enterprises, or to the establishment of new ones. The exclusive ownership of scarce resources, the heavy investment required for entry into many fields, the fixed character of much existing equipment, high costs of transportation, restrictive tariffs, exclusive franchises, and patent rights constantly operate to destroy the threat of competition. Science, invention, and the development of technology constantly operate to keep this threat alive. Potential competition, insofar as the threat survives, may compensate in part for the imperfection characteristic of actual competition in the great majority of competitive markets.

EFFECTIVE OR WORKABLE COMPETITION

Competition among sellers, even though imperfect, may be regarded as effective or workable if it offers buyers real alternatives sufficient to enable them, by shifting their purchases from one seller to another, substantially to influence quality, service, and price. Competition, to be effective, need not involve the standardization of commodities; it does, however, require the ready substitution of one product for another; it may manifest itself in differences in quality and service as well as in price. Effective competition depends, also, upon the general availability of essential information; buyers cannot influence the behavior of sellers unless alternatives are known. It requires the presence in the market for several sellers, each of them possessing the capacity to survive and grow, and the preservation of conditions which keep alive the threat of potential competition from others. It cannot be expected to obtain in fields where sellers are so few in number, capital requirements so large, and the pressure of fixed charges so strong, that price warfare, or the threat of it, will lead almost inevitably to collusive understandings among the members of the trade. Effective competition requires substantial independence of action; each seller must be free to adopt his own policy governing production and price; each must be able and willing constantly to reconsider his policy and to modify it in the light of changing conditions of demand and supply. The test of effectiveness and workability in competition among sellers is thus to be found in the availability to buyers of genuine alternatives in policy among their sources of supply.

Effective or workable competition among buyers cannot obtain in the case of specialized products, produced on specialized equipment, to meet the particular specifications of a single buyer; it can appear only in connection with the exchange of goods which are in general demand. It depends upon the availability to sellers of information concerning the offers made by buyers. It requires the presence in the market of several buyers, each of them strong enough to survive and grow, and the preservation of conditions which permit new buyers to enter the market and enable sellers to make sales elsewhere. It requires substantial independence of action on the

part of every buyer to the end that sellers may be afforded genuine alternatives in policy among their sources of demand.

The concept of effective or workable competition, though less definite, is more generally useful than that of perfect competition. It fulfills, in part, at least, many of the conditions requisite to perfection. It includes all of the area of pure competition and much of that of imperfect, monopolistic and nonprice competition. It requires the preservation of the threat of potential competition. It may even exist under the conditions of oligopoly and oligopsony. It may be difficult to distinguish from cutthroat or destructive competition, but it is inconsistent, in general, with those forms of competition that may properly be defined as cutthroat, destructive, or predatory, and with many of the competitive practices that have usually been condemned as unfair. In brief, competition may be said to be effective or workable whenever it operates over time to afford buyers substantial protection against exploitation at the hands of sellers and to afford sellers similar protection against exploitation by buyers. For this is the social function which competition is supposed to perform.

THE NATURE OF MONOPOLY

Monopoly, like competition, has many different meanings. The term always denotes the existence of a considerable measure of unified control over the supply of a definite commodity in a specific market. But monopoly may be regarded as nonexistent, rare, common, or universal, according to one's more precise definition of the term.

First, in the strictest possible meaning of the word, monopoly may be limited to those cases in which monopoly power is absolute. Monopoly power is the monopolist's ability to augment his profit either by fixing the price at which he will sell and thus, indirectly, the quantity that will be sold, or by fixing the quantity that he will sell and thus, indirectly, the price at which it will be sold. Monopoly power may be said to be absolute only when the monopolist can fix price and quantity without considering the possible effect of his action upon consumers, potential competitors or the state. He can do this only when consumers can neither dispense with his product, purchase a substitute, nor import such goods from another market, when potential competitors can neither make nor import them, and when it is certain that the state will not intervene. These conditions are never fully satisfied. Few products are really indispensable. Few are without close substitutes. Indeed, every one must compete with every other one to obtain the consumer's dollar. Science and invention, moreover, are constantly increasing the possibility of competition and substitution. Market barriers are seldom insurmountable. The threat of public intervention is ever present. Monopoly power, therefore, is always partial, limited, and temporary. Monopoly, in the sense of absolute monopoly power, is practically nonexistent.

Second, in the generic meaning of the word, monopoly may be said to exist only when a single seller controls the entire supply of a commodity. Here the prevalence of monopoly depends upon one's

definition of the term commodity. If every product which is in any way unique is to be regarded as a separate commodity, even though the characteristics which distinguish it from similar products be limited to such matters as its superficial appearance, packaging, and brand name, then monopoly in this sense is common. But the possessor of such a monopoly enjoys little monopoly power, since consumers have the alternative of substituting for his product another which is similar to it. If, however, the whole group of products which serve a common purpose is to be regarded as constituting a separate commodity, the possessor of such a monopoly would enjoy a considerable measure of monopoly power. But monopoly in this sense is rare indeed.

Third, in the strictest sense in which the word is usually employed, monopoly may be said to exist both when a single seller and when a number of sellers, acting in unison through formal or tacit agreement, control the entire supply. Here, again, if the word commodity be broadly defined, monopoly is comparatively rare.

Fourth, in the widest possible meaning of the term, monopoly may be said to exist whenever the conditions under which goods are sold fall short of those which constitute perfect competition. Since perfect competition, like absolute monopoly, is practically nonexistent, monopoly in this sense is well-nigh universal. But the range of actual market situations extends all the way from those that approach absolute monopoly to those that approach perfect competition. The condition which generally obtains is properly to be described not as universal monopoly but as imperfect competition.

Fifth, in the sense in which the word is most frequently used, monopoly may be said to exist whenever a single seller or a number or sellers acting in unison control enough of the supply of a broadly defined commodity to enable them to augment their profit by limiting output and raising price. Here monopoly is defined in terms not of absolute but of appreciable monopoly power. Monopoly in this sense is common.

DUOPOLY

There are cases in which two sellers, instead of one, control the entire supply of a broadly defined commodity, or enough of it to enable them to augment their profits by limiting output and raising price. Here the existence of a second seller affords every buyer an alternative source of supply. But it is unlikely to afford him any real alternative in quality, service, price, or terms of sale. If the two sellers are of equal strength, each must shape his policy with an eye to the action of the other. If they are of unequal strength, the weaker will usually follow the lead of the stronger. In either case, an understanding governing production and price is readily to be attained. In their essential character and in their ultimate effects, duopoly and monopoly are the same.

MONOPSONY AND DUOPSONY

Monopoly is sometimes so defined as to include concentration of control over production and price on either side of the market. A

monopoly-like situation, properly called monopsony, exists on the buyers' side of the market when a single buyer, or a number of buyers acting in unison, control the entire demand for a commodity, or enough of it to enable them to augment their profits by restricting the amount that they will purchase or by reducing the price that they will pay.

Duopsony, a situation comparable to duopoly, exists on the buyers' side of the market when two buyers control the entire demand for a commodity, or enough of it to enable them to augment their profits by limiting their purchases and depressing the price. Duopsony is almost as unlikely as monopsony to offer sellers any real alternative in sources of demand.

The situations discussed in the following pages relate almost exclusively to the presence or absence of competition among sellers. The buyers' side of the ultimate market for consumers' goods is almost always effectively competitive. Ultimate consumers number in the millions; they have seldom been able to attain a degree of organization sufficient to enable them materially to affect the volume of their purchases or the price at which they buy. Monopsony, duopsony, and oligopsony make their appearance almost exclusively in the markets in which the producers and distributors of goods and services purchase their supplies. Even here they appear to be of less frequent occurrence than are the equivalent conditions on the sellers' side of the market. The discussion of noncompetitive situations which follows, therefore, deals principally with monopolistic control over supply. Only incidental consideration is given to monopoly-like control over demand.

THE USE OF TERMS

At the one extreme of possible market situations stands perfect competition, a condition which is nonexistent. At the other stands absolute monopoly power, a condition which is likewise nonexistent. If the use of the term competition is confined to those situations which fulfill the requirements of perfection and if all those which fall short of this ideal are regarded as monopolistic, then all markets are monopolistic. If, on the other hand, the use of the term monopoly is confined to situations in which monopoly power is absolute and if all others are regarded as competitive, then all markets are competitive. If both terms are defined in their strictest possible sense, then no actual market can be described as either competitive or monopolistic. In none of these cases would it be possible to use the terms competition or monopoly to distinguish among actual market situations, which range all the way from those that approach perfect competition on the one hand to those that approach absolute monopoly power on the other. If they are to be practically useful, the terms must be employed in a looser sense. It is possible to describe as competitive those situations in which the conditions requisite to effective or workable competition appear to obtain and as monopolistic those in which there appears to exist an appreciable degree of monopoly power. It is in this looser sense that the terms are here to be employed.

THE CLASSIFICATION OF MARKETS

The line between effective competition and appreciable monopoly power is not an easy one to draw. Some industries are clearly competitive; some are as clearly monopolized. But there remains a middle area in which markets cannot be described with confidence as either competitive or monopolistic. The situations which obtain here shade imperceptibly from those which are more nearly competitive to those which are more nearly monopolistic. The qualifying adjectives, effective and appreciable, which are used to distinguish among them, are of necessity too vague to admit of great precision in application. The differences which exist within this area thus become a matter of degree rather than of kind.

There are practical difficulties, too, which obstruct any attempt to classify markets according to the criteria of competition and monopoly. Information on many industries is publicly unavailable. Conspiracy in restraint of trade, since it is in violation of the law, is usually hidden. Large establishments frequently produce a variety of products; they may enjoy a monopoly in one line and face competition in another. Products and producers are interrelated; a commodity that appears to be monopolized may actually be in competition with close substitutes; a firm that appears to face many competitors may be found, upon disclosure of the interrelationships existing within the industry, to possess appreciable monopoly power. Market situations are constantly changing; industries once competitive become less so with the development of trade organization and the enactment of restrictive legislation; industries once monopolized become competitive with the establishment of new units and the innovations made possible by discovery and invention. The best that can be done, in the circumstances, is to analyze the situation that appears to have existed in those industries for which information is available at the time for which such information was obtained.[1]

THE SIGNIFICANCE OF COMPETITION

Private business, whether it be competitive or monopolistic, seeks to realize a profit. But profit-seeking activity, under the differing conditions of competition and monopoly, employs quite different methods and produces dissimilar results. It is impossible, within the scope of the present study, to analyze the consequences of the situations which obtain in each of the markets described. But the probable effects of competition and monopoly, in general, may be briefly outlined.

THE ADVANTAGES OF COMPETITION

The resources of a nation, in land, in labor, and in capital, are limited in supply. The varieties of goods which might be produced

[1] Objection has been made to the use of the word "monopolized" in the titles of chapters III, IV, and V. It is believed that every situation described in these chapters involves an exercise of power which has had an appreciable effect on output and price and is thus properly to be defined as monopolistic. It must be repeated, however, that the assignment of specific industries to these categories is not presented as an exhaustive, definite, or permanent classification and that it involves no judgment as to the legality or the morality of the practices described. The Post Office Department is a monopoly, but it is neither illegal nor wicked.

with these resources are many Economy requires that scarce resources be devoted to the production of those goods which consumers demand and that they be allocated among the Nation's industries in proportions which correspond to that demand. Competition operates to bring about this result. Failure in business curtails the supply of unwanted goods. Freedom of entry into business enlarges the supply of wanted goods. Land, labor, and capital are withdrawn from the one field and added to the other in response to the changing direction of consumer demand. The mobility characteristic of competition thus tends to achieve that allocation of resources which economy requires.

Competition serves the consumer. It operates negatively to protect him against extortion. If the quality of the product offered by one producer is low, the quality of that offered by another may be high. If the price charged by one producer is high, that asked by another may be low. The consumer is not at the mercy of the one as long as he has the alternative of buying from the other. More than this, competition operates affirmatively to enhance quality and reduce price. The producer who wishes to enlarge his profits must increase his sales. To do so, he must offer the consumer more goods for less money. As he adds to quality and subtracts from price, his rivals are compelled to do the same. The changes which he initiates soon spread throughout the trade. Every consumer of its products gets more and pays less.

Competition is conducive to the continuous improvement of industrial efficiency. It leads some producers to eliminate wastes and cut costs so that they may undersell others. It compels others to adopt similar measures in order that they may survive. It weeds out those whose costs remain high and thus operates to concentrate production in the hands of those whose costs are low. As the former are superseded by the latter, the general level of industrial efficiency is accordingly enhanced.

Competition makes for material progress. It keeps the door open to new blood and new ideas. It is congenial to experimentation. It facilitates the introduction of new products, the utilization of new materials, and the development of new techniques. It speeds up innovation and communicates to all producers the improvements made by any one of them. Competition is cumulative in its effects. When competitors cut their prices, consumers buy more goods, output increases, and unit costs decline. The lower prices compel producers to seek still further means of cutting costs. The resulting gains in efficiency and in technology open the way to still lower prices. Goods are turned out in increasing volume and the general plane of living rises accordingly.

Competition may operate slowly; it may inflict incidental hardship; but it tends ultimately to serve the common good. It induces the businessman to maximize total output, to achieve full utilization of productive capacity, and to provide full employment for labor. It obtains his services for society at the lowest profit for which he is willing to perform them and forces him to distribute to workers in higher wages and to consumers in lower prices a major part of the gains resulting from improvements in technology. It harnesses the profit motive and puts it to work, increasing the output of goods,

distributing them more widely, and raising the plane of living toward the highest level which productive resources and technical skill can maintain.

THE DISADVANTAGES OF COMPETITION

Although competition operates, in general, to serve the consumer, it does not invariably do so. It calls forth a needless variety of models and sizes and places undue emphasis on style and fashion. It diverts a substantial share of the Nation's resources from the production of goods to the elaboration of advertising and salesmanship. Competition in persuasion is not always competition in service. Competitors, like monopolists, may misrepresent the quality of their products and the consumer may not detect the deception. Under pressure to cut costs, they may be more likely than monopolists to give short measure and to adulterate their goods.

When labor is fully employed, competition to obtain workers operates to raise wages, shorten hours, and improve the conditions of work. But when there is a large reserve of idle labor, competition may have the opposite effect. Competitors may endeavor to cut costs by reducing wages, lengthening hours, and impairing the conditions of work. The employer who wishes to pursue a policy more favorable to labor may find it impossible to meet the prices charged by his rivals if he attempts to do so. Under such circumstances, competition operates to depress the standards of labor. In fact, it is in certain of the most highly competitive trades that such standards have been notoriously low. Monopoly did not produce the sweatshop. The monopolist may not deal fairly with his workers, but no competitive necessity prevents him from doing so.

Competition contributes to efficiency in manufacturing and in distribution; it causes inefficiency in the utilization of natural resources. Competition in the production of timber, bituminous coal, and petroleum hinders the application of improved technology and encourages the employment of wasteful methods of exploitation. It may provide the consumer with a large supply at a low price for the time being, but it does so at the expense of future generations. Competition is not conducive to conservation.

Where competition does contribute to efficiency, the gain is offset, in part, by the wastes which it entails. Competition involves an unnecessary duplication of plant, equipment, and personnel. It makes for secrecy and impedes the communication of new ideas. It multiplies the effort required to obtain information concerning conditions affecting a trade. It necessitates costly negotiation over matters which monopolists would handle by the issuance of orders. It compels managements to direct toward bargaining, attention which they might otherwise devote to the improvement of internal efficiency. In certain fields, it prevents the coordination of services that might be better rendered by a single firm. It may even make it impossible for individual plants to attain the most efficient scale of operation. Between these wastes and the competitive stimulus to efficiency, a different balance must be struck in every field.

Competition is not without its costs. It may require a high rate of business morality; it may inflict serious losses on investors. Nor

are the inefficient the only ones to suffer. The bankruptcy which eliminates a business entity does not destroy the productive equipment which it owns. Such equipment may be acquired at bargain prices by other concerns. With lower costs, they may proceed to undersell their rivals in the trade. Inability to meet their prices may bankrupt other firms, regardless of efficiency. A whole industry may thus be caught in a vicious circle of failure, loss, recapitalization, further failure, and repeated loss. Bankruptcy in small doses may prove healthful for a trade. But bankruptcy in too large a measure may impair its usefulness. At best, the process is a wasteful one.

THE SIGNIFICANCE OF MONOPOLY

With monopoly, as with competition, judgment must balance potential advantages and disadvantages. The verdict may differ with the differing circumstances of different trades. It may be favorable for specific trades; adverse for the economy as a whole.

THE ADVANTAGES OF MONOPOLY

There are but a few areas in which it is clear that the public interest can be better served by monopoly than by competition. In the natural resource industries, the need for conservation suggests the desirability of noncompetitive exploitation. In certain other fields, as in the telephone business, the nature of the function performed is such as to demand coordinated development under common control. In still others, as in the case of the railroad industry during the first World War, the adequacy of the service rendered may be improved by unification. It is possible, too, that there are fields in which the technology of production is such that the most efficient scale of operation can be attained only if a single firm is permitted to produce the whole supply. But such fields cannot be numerous. Realization of the economies of large scale production seldom requires monopolistic control. The efficiency of size has to do with the scale of production, marketing, and financing operations, not with the extent of control over supply in a market. It is probable that the demand for the vast majority of products is sufficiently great to enable a large number of plants, each under separate ownership, to realize the economies of size.

The advantages of monopoly, in general, are the converse of the disadvantages of competition. Monopoly can avoid wasteful duplication of productive facilities. It can simplify and standardize its products. It can minimize expenditure on advertising and salesmanship. It can command essential information and cut the cost of bargaining and negotiation. It need not shroud its technology in secrecy; it can apply the discoveries resulting from research to the entire output of a trade. The monopolist is under no competitive pressure to give short measure or to adulterate his goods. He is not driven to depress the standards of labor. If he wishes, he can so conduct his business as to serve the common interest. But, in the absence of effective public regulation, he is under no compulsion to do so.

Monopoly may afford the investor greater security and a steadier return than he could obtain under competition. It is designed to pro-

long the life of the business unit. It is likely to sacrifice progress to stability. It need not go through a continuous cycle of bankruptcy induced by bankruptcy. But monopoly does not invariably serve the interest of the investor. Its formation and its preservation frequently involve the acquisition of extensive properties at an excessive price. Its prospective profits are often so highly capitalized as to yield the purchaser of its securities a small and uncertain return. Its price policy is likely to be one that obstructs adaptation to economic change and thus imperils investment both in monopolized and in competitive fields. Under monopoly, as under competition, the investor must run the risk of incompetent or dishonest management and loss of markets through shifts in consumer demand.

THE DISADVANTAGES OF MONOPOLY

The counts in the indictment of monopoly are ten in number: First, it causes an uneconomic allocation of productive resources. The monopolist limits his output to the quantity that the market will take at the established price. Consumers who would be willing to purchase larger quantities of his product at lower prices are forced, instead, to buy goods that are wanted less. Capital and labor are thus diverted from those things which the community prefers to those which are, at best, a second choice. The resources that are excluded from the superior occupation compete with others for employment in inferior ones and their productivity declines.

Second, monopoly affords the consumer no protection against extortion. The monopolist may persist in offering inferior quality at a high price, since the purchasers of his product lack the alternative of turning to another source of supply. He may obtain his profit, not by serving the community, but by refusing to serve it.

Third, monopoly affords the worker no protection against low wages, long hours, and poor conditions of employment. The firm that possesses a monopoly in the sale of its products may also enjoy a monopsony in the purchase of the labor required for their production. It may control the only market for special types of skill, the only market for labor in a whole region. Such a situation deprives the worker of the alternative of turning to another employer for better terms. His only protection lies in organization for collective bargaining, enforced by the threat to strike.

Fourth, monopoly inflicts no penalty on inefficiency. The monopolist may achieve economies through combination and integration; he may eliminate wastes and cut costs; but he is under no competitive compulsion to do so. Through inertia, he may cling to traditional forms of organization and accustomed techniques. His hold upon the market is assured.

Fifth, monopoly is not conducive to economic progress. The monopolist may engage in research and invent new materials, methods, and machines, but he will be reluctant to make use of these inventions if they would compel him to scrap existing equipment or if he believes that their ultimate profitability is in doubt. He may introduce innovations and cut costs, but instead of moving goods by price reduction he is prone to spend large sums on alternative methods of promoting sales; his refusal to cut prices deprives the com-

munity of any gain. The monopolist may voluntarily improve the quality of his product and reduce its price, but no threat of competition compels him to do so.

Sixth, monopoly prevents the full utilization of productive capacity. Monopolistic agreements may, for a time, yield so large a profit that they attract new enterprises into the fields which they control. Capacity is increased but prices are maintained and output is not allowed to grow. A large part of the productive plant is condemned to idleness.

Seventh, monopoly obstructs adjustment to economic change and thus contributes to general industrial instability. In the competitive sector of the economy prices are flexible; in the monopolized sector they are rigid. In the former area, price is cut to maintain output when demand declines. In the latter, output is cut to maintain price. By refusing to sell at figures which would move his goods, the monopolist leaves factories idle and labor unemployed. Consumer income falls and, with it, the demand for products of competitive industries. The prices of these products are further depressed. Their producers can no longer buy the goods whose prices are maintained. The resulting stalemate may persist for months or years. The necessary adjustments, when they occur, are violent instead of gradual. By stabilizing price, the monopolist unstabilizes the whole economy.

Eighth, monopoly impedes the raising of the general plane of living. Because it does not compel the reduction of prices, because it fails to penalize inefficiency, because it is not conducive to economic progress, because it prevents full utilization of productive capacity, and because it creates industrial instability, it makes the total output of goods and services smaller than it otherwise would be.

Ninth, monopoly contributes to inequality in the distribution of income. The monopolist is under no compulsion to pass on to labor in higher wages or to consumers in lower prices the gains resulting from improvements in technology. As a purchaser of labor and materials, he may be in a position to depress their prices and thus reduce his costs. As a seller of goods and services, he sets his own price at the point that is calculated to yield him the largest obtainable net return. The monopolist's price will almost always be above the one that he would charge if he were under the necessity of meeting competition. His freedom from competitive or regulatory restraints enables him to obtain a profit much larger than that required to enlist his services in the administration of industrial activity. Enterprises which monopolize important fields are almost invariably corporate in form. Their net income, insofar as it is not reinvested in plant and equipment, declared as dividends on preferred shares, or diverted to insiders, goes to the holders of their common stock. Declaration of dividends on common stock thus represents a distribution of the profits of monopoly. If this stock were widely held, monopoly would still operate to impair the general standard of living, but it would not accentuate inequality. But the ownership of all corporate stock is concentrated and corporate dividends go mainly to the rich. In 1929, more than 83 percent of all the dividends paid to individuals went to the 3.28 percent of the population who filed income-tax returns; 78 percent of them went to the richest three tenths of one percent. Concentration in

the distribution of dividends derived from monopoly is at least as great. Monopoly thus makes for economic inequality. The laborers whose incomes may be limited by the monopolist's failure to pay wages equal to their productivity are numerous. The producers of materials whose incomes are depressed by the low prices that the monopolist sometimes pays may also be numerous. The consumers whose real incomes are reduced by the high prices that the monopolist charges are likewise numerous. The stockholders who share the unnecessarily high profits that the monopolist thus obtains are few in number. A more nearly perfect mechanism for making the poor poorer and the rich richer could scarcely be devised.

Tenth, and finally, monopoly threatens the existence of free private enterprise and representative government. In some fields monopolistic arrangements cannot be established or enforced without legal coercion. Here, competitors who do not wish to compete may call upon the State to impose restraints upon those who do. In an effort to escape the consequences of freedom, they may be willing to sacrifice freedom itself. The legislation which they seek, and frequently obtain, may fasten a straitjacket upon every firm in a trade. Monopoly in any field may so abuse its power that small producers, workers, and consumers will demand the enactment of regulatory laws. Private administration may then be subjected to public supervision; management may be compelled to submit essential decisions to the approval of governmental agencies; the area of business freedom will be accordingly curtailed. Concentration in economic power begets concentration in political power. The resulting order in business and in government must differ materially from that envisaged by the philosophers of liberalism. Indeed, it may be questioned whether democratic processes can survive the trend toward centralized economic control. Monopoly impairs democracy's ability to defend itself in time of war. National defense requires an expansion of output; monopoly seeks to augment its profit by restricting output and maintaining price. It thus obstructs the procurement of arms and supplies, increases the cost of defense, adds to the burden of debt and taxation, and undermines national morale. When the Nation is attacked, it may even turn the balance from victory to defeat. Monopoly threatens democracy, too, when its contribution to industrial paralysis, to unemployment, and to distributive inequality, induces those widespread attitudes of hopelessness and resentment that make ready converts for the propagandists of revolutionary change. In the words of the Federal Trade Commission, "The capitalist system of free initiative is not immortal, but is capable of dying and of dragging down with it the system of democratic government. Monopoly constitutes the death of capitalism and the genesis of authoritarian government." [2]

[2] Hearings Before the Temporary National Economic Committee, 76th Cong., 1st sess., Part 5, p. 2200.

CHAPTER II

COMPETITIVE MARKETS

A few industries are clearly competitive, a few are as clearly monopolized, but in most cases it is difficult to determine the category to which an industry should be assigned. The number of producers and the extent to which production is concentrated in the hands of a few of them do not afford a certain test, since a large number of small firms may agree upon a common course of action, while a handful of large firms may engage in vigorous competition, and a concern which appears completely to have monopolized a product may actually be competing with numerous producers of substitutes. The presence or absence of uniformity in price quotations cannot be taken as an index, since uniformity may either be approached when competitors attempt to meet the prices set by their rivals or attained when conspirators agree, while disparity may be produced both when competitors undercut established prices and when conspirators rig their bids. The degree of price flexibility is not a satisfactory criterion, since competition may make its appearance in forms that are not reflected in price; custom and convenience, as well as monopoly, may induce rigidity, and monopolists may choose to alter their prices at will. The volume of production and the extent of utilization of productive capacity are not reliable as measures, since declining demand and dwindling resources may eventually necessitate curtailment of output and abandonment of capacity in fields which are competitive, while the economies of large-scale production may lead to expansion of output and full utilization of capacity in fields which are monopolized. The rate of profit is not an adequate test, since firms that face competition may realize high profits, for a time at least, while a firm that possesses a monopoly may make low profits or suffer a loss. The turnover of producing units and the rate of business mortality are not infallible guides, since competitors sometimes enjoy long lives and monopolists sometimes go bankrupt. Nor does a combination of several of these indices necessarily afford an answer, since those industries that appear to be most competitive are the very ones in which the greatest efforts have been made, through private arrangements and through legislation, to bring competition under common control. The problem is further complicated by the fact that a concern may manufacture several products and sell in several markets; it may possess a monopoly over one product and face competition in the sale of another; it may enjoy a monopoly in one market and meet with competition in another. It must be noted, moreover, that any one of these conditions may be modified with the passage of time. Determination of the status of an individual trade, therefore, requires nothing less than a detailed analysis, product by product, market by market, and year by year, of output and prices,

of quality, service and terms of sale, of costs and profits, of private agreements and public regulations and of the effectiveness with which they are enforced. Within those fields, however, where producers are numerous, where the degree of concentration is low, where the prices charged by different firms are not identical, where these prices are not rigidly maintained over long periods of time, where the volume of production is not drastically curtailed at the onset of depression, where productive capacity is largely utilized during each of the phases of the trade cycle, where profits are moderate, where the turnover of producing units is rapid, and where the rate of business mortality is high, there is a presumption that effective competition prevails. These conditions, in part or in full, are characteristic of many American industries.

EXTRACTIVE INDUSTRIES

In some extractive industries, physical concentration of scarce resources has made it possible for one or a few firms to take title to the whole supply. In others, extensive resources have been reduced to common ownership. In still others, private arrangements and public regulations have succeeded in bringing production and prices under control. But, by and large, this area is one in which conditions conducive to effective competition have normally obtained.

AGRICULTURE

In agriculture as a whole and in each of its branches, producing units are numerous, the typical unit is small, and the degree of concentration is low. The number of farms in the United States is close to 7,000,000. In 1934 tobacco was grown on 422,000 farms, wheat on 1,364,000, cotton on 1,920,000, and corn on 4,850,000.[1] In 1935 sheep and lambs were raised on 635,000 farms, hogs on 3,971,000, cattle on 5,481,000, and chickens on 5,833,000.[2] These numbers, moreover, may be readily increased. Movement into agriculture is unimpeded; knowledge of the processes involved is possessed by many and accessible to all; land suitable for cultivation covers an area three times as large as that which is now in use; the capital required for entry is low. In 1935 the average farm consisted of less than 155 acres and represented an investment in land and buildings of less than $5,000.[3] Farms engaging the gainful activity of more than 5 persons numbered less than 42,000, while farms engaging 5 or fewer persons, numbering more than 6,770,000, accounted for 97 per-percent of those who were employed in agricultural pursuits.[4] In 1929, according to one estimate, the value of crops and livestock produced on nearly half of the Nation's farms was less than $1,000.[5] In that year, the products of cash-grain farms of typical size were valued at $2,500, those of dairy farms at $2,000, those of fruit farms at $1,750, those of truck farms at $1,500, and those of poultry and specialty crop farms at $1,250.[6] Not more than 7 percent of agri-

[1] Census of Agriculture, 1935
[2] Ibid.
[3] Ibid.
[4] Ibid.
[5] National Resources Board, Report, 1934, p. 177.
[6] Bureau of the Census and Bureau of Agricultural Economics, Large-Scale Farming in the United States, 1929, p. 3

cultural activity is carried on by corporations[7] and only 0.7 percent of these corporations have assets in excess of $5,000,000.[8] Large-scale farms, defined, with certain exceptions, as those with products valued at $30,000 or more, numbered less than 6,000 in 1929, representing only 0.1 percent of all farms, only 6.9 percent of farm acreage, only 3.2 percent of the value of farm lands and buildings, and only 4.5 percent of the value of farm products.[9] It has been estimated that the 4 largest producers account for only 0.14 percent and the 8 largest for only 0.25 percent of the output of cotton; the 4 largest for only 0.13 percent and the 8 largest for only 0.22 percent of the output of wheat; the 4 largest for only 0.09 percent and the 8 largest for only 0.12 percent of the output of hogs.[10]

The producers of most agricultural commodities are powerless to fix the prices at which they sell. No one of them controls a part of the supply large enough to enable him, by curtailing output, appreciably to affect a price. No group of them acting in concert, in the absence of public intervention, can control a part of a supply large enough to enable it substantially to influence a price, since curtailment among its members, by holding out the promise of higher returns, will encourage nonparticipation and stimulate expansion among outsiders. No group, even though participation in its program is required by law, can control supply so completely as to enable it to determine a price, since the size of a crop is affected more by weather than by conscious choice. Farmers, in the main, must sell their goods for whatever they will bring. Perishable products must be marketed at once or thrown away. Other products may be stored from year to year, but they too must eventually be sold. In each season prices will move toward the figure that will clear the market at the existing level of demand.

Both in the frequency and in the amplitude of their movement, the prices of agricultural products display a higher degree of flexibility than those of any other group of goods. In the 8 years from 1926 through 1933 there were 95 opportunities for month-to-month changes in price. During this period the prices of corn, wheat, barley, oats, rye, cotton, tobacco, flaxseed, lemons, oranges, steers, and poultry showed 95 such changes; those of eggs, onions, potatoes, hops, cows, calves, hogs, and lambs showed 94; and those of every other product except alfalfa seed and fluid milk showed more than 70. Between June 1929 and February 1933 the prices of beans and onions fell more than 80 percent; those of corn, clover seed, peanuts, and cows fell more than 70 percent; those of oats, cotton, hops, steers, hogs, and sheep fell more than 60 percent; those of wheat, flaxseed, timothy seed, sweetpotatoes, apples, oranges, eggs, wool, calves, lambs, and poultry fell more than 50 percent; and those of every other product except potatoes and rye fell more than 40 percent.[11]

Whether prices rise or fall, the farmer will continue to produce. His interest, rent, and taxes must be paid. His land, his equipment, his labor, and the labor of his family can be put to work without

[7] Hearings Before the Temporary National Economic Committee, pt. 1, p. 96.
[8] Ibid., p. 230.
[9] Bureau of the Census and Bureau of Agricultural Economics, op. cit., pp. 21, 24.
[10] National Resources Committee, The Structure of the American Economy, Part I, Basic Characteristics, 1939, p. 116.
[11] Saul Nelson and Walter G. Keim, Price Behavior and Business Policy, Temporary National Economic Committee, Monograph No. 1, Part I, pp. 172–173.

additional expense. He might better employ them fully than leave them in partial idleness. As long as the cost of seed and fertilizer, of feed and gasoline, does not exceed the price at which he can sell his crop, he can augment his income by maximizing his output. He can always hope, moreover, that total production in the coming season will be low and prices high. In good times and in bad, unless the law forbids it, he will continue to produce at close to full capacity. This fact is illustrated by the record of prices and production from 1929 to 1932. During these 3 years the prices of agricultural commodities in general fell 54 percent; their production fell by only 1 percent.[12] The average price of wheat on the farm fell from $1.03 to $0.39; the acreage sown to wheat fell only from 66,787,000 to 64,927,000.[13] Cotton and cottonseed prices fell nearly 70 percent, production only 13 percent; grain prices fell more than 63 percent, production less than 9 percent; poultry product prices fell nearly 50 percent, production less than 1 percent; truck crop prices fell more than 30 percent, production not at all; dairy product prices fell 47 percent, production rose nearly 4 percent; meat animal prices fell nearly 60 percent, production rose nearly 5 percent; fruit prices fell nearly 42 percent, production rose more than 7 percent.[14] The output of the great majority of agricultural products declined only moderately, remained the same, or increased. The output of livestock and livestock products, fruits and vegetables was higher in each year of the depression than it had been in 1929.

Agriculture is notoriously unprofitable. It is estimated that farming operations yielded a gross income, including revenue from the sale of farm products, the value of products consumed on farms, and the rental value of farm homes, of $21,288,000,000 in the year ending June 30, 1927; the subtraction of rent, wages, interest, and other payments left a net income of $3,452,000,000; but interest on the farmers' investment, computed at 4.5 percent, plus wages for the farmers' labor, figured at $540 per year, amounted to $5,169,000,000; the industry therefore incurred a net deficit of $1,717,000,000 in that year.[15] Farms changing hands through tax delinquency, mortgage foreclosure, or bankruptcy numbered 14.8 in every thousand in 1929, 54.1 in 1933, and 22.4 in 1937.[16] The per capita withdrawals of entrepreneurs in agriculture stood at only $718 in 1929, $359 in 1933, and $516 in 1937.[17] The median income of farm families, including an allowance for products consumed on farms and for the rental value of farm homes, has been estimated at $910 and the mean income at $1,240 for 1929,[18] the median at $965 and the mean at $1,349 for 1935–1936.[19]

LUMBER

The lumber industry has a large number of enterprises, most of them small in size, a large reserve of productive capacity, and a

[12] Joseph S. Davis, Wheat and the A. A. A. (Washington, 1935), pp. 445, 457.
[13] Idem.
[14] Statistical Abstract of the United States, 1938, p. 620.
[15] Morris A. Copeland, The National Income and Its Distribution, ch. 12 in Recent Economic Changes (New York, 1929), p. 781.
[16] Agricultural Statistics, 1938, p. 451.
[17] Bureau of Foreign and Domestic Commerce, Income in the United States, 1929–37, table 22.
[18] Maurice Leven, H. G. Moulton, and Clark Warburton, America's Capacity to Consume (Washington, 1934), pp. 59–60.
[19] National Resources Committee, Consumer Incomes in the United States (1938), p. 26.

low degree of concentration. Establishments with an annual output worth more than $5,000 counted 18,556 in 1929, 5,981 in 1935, and 7,647 in 1937.[20] Manufacturers of lumber and timber products other than furniture and vehicles, covered by the industry's code under the N. R. A., numbered, according to various estimates, between 17,000 and 24,000.[21] Among 17,467 sawmills included in reports made by divisional code authorities, 44 percent had a productive capacity of less than 500 board feet per hour, 81 percent had a capacity of less than 1,000 feet, 98 percent had a capacity of less than 10,000 feet, and 99.99 percent had a capacity of less than 50,000 feet.[22] Additional units stand ready to enter the industry whenever demand improves. Nearly 500,000,000 acres of forest land are being held for commercial purposes, nearly 200,000,000 of them bearing growths of saw-timber size.[23] In 1925, the year of the biggest cut in the industry's history, only 58 percent of existing sawmill capacity was in use; [24] in 1932, less than one-sixth was in use.[25] The N. R. A. code, with its promise of higher prices, brought 5,000 idle sawmills into operation after August 1933.[26] The index of concentration is low. In 1935 the 4 largest producers of lumber and timber products accounted for only 4.7 percent and the 8 largest for only 7.6 percent of the total output.[27] Other factors unite with these to make the industry competitive. The pressure of interest and taxes compels owners to convert their standing timber into cash regardless of the price. A high level of severance is required to liquidate investments in lands of diminishing value. Each of the species of timber competes with several of the others. The industry is faced, moreover, with increasing competition from steel, cement, stone, and other building materials and from paper and other forms of packaging. The annual per capita consumption of lumber has fallen steadily over many years.

The prices of lumber and timber products are relatively flexible. In the years from 1926 through 1933, 92 month-to-month changes were recorded by yellow pine flooring, 91 by Douglas fir, 89 by yellow pine lath, 86 by cedar shingles, 76 by spruce, 59 by gum, 22 to 32 by poplar, red cedar, and cypress, 12 by chestnut, and 9 by redwood. From June 1929 to February 1933, the prices of yellow pine flooring and lath, Douglas fir, cedar shingles, maple, and gum dropped more than 45 percent, those of poplar, cypress shingles, yellow pine timber, Ponderosa pine, Douglas fir lath, spruce, redwood, oak, and red cedar more than 25 percent, those of cypress and chestnut 19 percent and 15 percent, respectively.[28]

The industry is far from profitable. In 4 of the years from 1927 through 1936, saw mills and planing mills reporting to the Bureau of Internal Revenue, numbering from 2,800 to 3,800, showed combined net profits ranging from $5,693,000 to $32,360,000, but in 6 years these companies showed net deficits ranging from $18,594,000 to $124,081,000,

[20] Census of Manufactures, 1937.
[21] Peter A Stone and others, Economic Problems of the Lumber and Timber Products Industry, N. R. A., Division of Review, Work Materials No. 79 (mimeo., 1936), p. 79.
[22] Ibid., p. 289.
[23] National Resources Board, Report, 1934, p. 142.
[24] Constant Southworth, The Lumber Industry and the N. R. A. (mimeo., 1934), p. 5.
[25] N. R. A., Division of Review, Evidence Study No. 22, the Lumber and Timber Products Industry (mimeo., 1935), p. 28.
[26] Southworth, op. cit., p. 21.
[27] National Resources Committee, The Structure of the American Economy, Part 1, pp. 250–251.
[28] Nelson and Keim, op. cit., pp. 181–182.

their operations over the 10-year period resulting in a cumulative net deficit of more than $340,000,000. Half or more of these concerns reported no net income in 9 of the 10 years, two-thirds or more of them reported no net income in 4 years, and nine-tenths of them reported no net income in 1932.[29] While these characteristics are ordinarily associated with competitive industries, there is considerable evidence of collusive trade restraints in many branches of the lumber industry, usually associated with trade association activities.

BITUMINOUS COAL

In bituminous coal mining, as in the lumber industry, producing units are numerous, most of them are small, and no one of them controls a significant fraction of the annual output. Mines listed as producing a thousand tons or more numbered 9,331 in 1923, 6,057 in 1929, 5,427 in 1932, and 6,875 in 1936,[30] but these figures did not include a multitude of truck and wagon mines, "snow birds" and "fly-by-nights" which contributed a portion of the total supply. The 6,057 mines listed in 1929 were owned by more than 4,000 companies,[31] but the total number of operators is even larger than this; 11,500 different concerns had signified their acceptance of the provisions of the Bituminous Coal Act of 1937 by November 15, 1938.[32] Most of the companies and most of the mines are relatively small. Among 4,976 concerns in 1929, more than a quarter had fewer than 6 employees and more than half had fewer than 21.[33] Among 6,548 mines in 1937, nearly three-fifths produced less than 10,000 tons, three-fourths less than 50,000 tons, and nine-tenths less than 200,000 tons; only 3 percent of them produced more than 500,000 tons. The bulk of the output, however, came from the larger mines, over two-thirds of it from the 10 percent that produced more than 200,000 tons and over a third of it from the 3 percent that produced more than 500,000 tons. But the former group included 661 different mines and the latter 212.[34] It is clear that no one mine and no small group of mines controls a share of the national output large enough to enable it to determine or substantially to influence the price of coal.

Bituminous production can be readily expanded. Available capacity is only partially employed. In 1923, at a high rate of operation, theoretical capacity was only 58 percent in use, in 1929 only 71 percent, in 1932 only 47 percent, and in the years from 1934 through 1937 about 60 percent.[35] There is no barrier to the establishment of new concerns and the development of new properties. Half of the world's coal is in the United States. Deposits of bituminous are widely scattered; title to workable seams is distributed among thousands of owners. Much of the supply is so readily accessible that mines can be opened quickly and at small expense. Any person or group who can muster a moderate amount of capital is free to enter the field. Rising prices will encourage operators to increase the

[29] Bureau of Internal Revenue, Statistics of Income, 1927–36.
[30] Minerals Yearbook, 1938, pp. 711–713.
[31] National Bureau of Economic Research. Report of the Committee on Prices in the Bituminous Coal Industry (New York, 1939), p. 13.
[32] National Resources Committee, Energy Resources and National Policy (1939), p. 72.
[33] Statistical Abstract of the United States (1938), p. 710.
[34] Department of the Interior, Bituminous Coal Division, Bituminous Coal Tables, 1937–38, p. 17.
[35] Ibid, p. 5.

output of existing mines, to re-open abandoned mines, and to bring new areas into production. Public regulation affords the only means by which supply and price can be controlled.

The industry is quick to expand, but slow to contract. Falling prices do not result in a proportionate reduction in the number of operators or the volume of output. A mine once opened cannot be closed without expense. It must be ventilated to prevent the accumulation of dangerous gases, pumped to prevent flooding, and timbered to prevent the loss of working places. Maintenance of idle properties may be more costly than operation at a loss. Bankruptcy eliminates mining companies but does not affect their mines; new owners, with a lighter burden of fixed charges, continue to produce. Enterprises that might otherwise have disappeared were kept alive during the twenties by the establishment of wage differentials in union contracts, a significant concession since labor constitutes two-thirds of the cost of mining coal. Producers who might otherwise have failed to reach the market have been enabled to do so by the inclusion of similar differentials in the structure of freight rates, another significant arrangement since the cost of transportation represents three fifths of the value of delivered coal.[36] Although the price realized at the mine in 1929 was 52 percent below that received in 1920, production was only 6 percent below the level established in the earlier year.[37]

Still other factors make for competition. Large consumers can obtain their own supplies. One fifth of the total output is produced by railroads, public utility corporations, by-product coke plants, and steel companies from captive mines.[38] Low wages and favorable freight rates have stimulated development in new areas. Greater efficiency in utilization has reduced demand, and coal has been forced to meet increasing competition from fuel oil, natural gas, and water power.

Until it was subjected to public regulation, the price of coal was the result of the free interplay of the forces of demand and supply. Demand for this commodity, in the short run, is relatively inelastic. Much of it comes from railroads, public utilities, steel, and other industries whose prices show little flexibility. The cost of coal is but a small part of their total costs. The price at the mine is only half of the price they pay. Reduction in this price will not produce a proportionate gain in sales. But price will fall when output is increased or when it is maintained in the face of declining demand. The average spot price of bituminous coal fell steadily from $5.64 per ton in 1920 to $1.75 in 1930. Value realized at the mine fell from a high of $3.75 in 1920 to a low of $1.31 in 1932.[39]

The industry made high profits during the First World War and the 5 years which followed. Among companies reporting to the Bureau of Internal Revenue, the net income of profitable concerns exceeded the net deficit of unprofitable concerns by more than $200,000,000 in 1917 and by nearly $250,000,000 in 1920. But profits turned into deficits after 1923 and the industry suffered losses during the remaining years

[36] Fred E. Berquist and Associates, Economic Survey of the Bituminous Coal Industry Under Free Competition and Code Regulation, N. R. A., Division of Review, Work Materials No. 69 (mimeo. 1936), p. 32.
[37] Ibid., p. 46.
[38] Ibid., p. 28.
[39] Ibid., pp. 41, 46.

of prosperity which mounted steadily in the depression. In each of the years from 1927 through 1936 the industry showed a deficit which ranged from $3,310,000 in 1936 to $51,167,000 in 1932. For the whole decade the total deficit exceeded $270,000,000. No net income was earned by 59 percent of the concerns reporting in 1929, by 83 percent in 1932, and by 68 or 69 percent in 1934, 1935, and 1936. No other industry covered by Treasury statistics has shown such widespread losses.[40] "Bituminous coal," writes F. G. Tryon, "offers the example par excellence of extreme competition among thousands of separate units." [41]

PETROLEUM PRODUCTION

The degree of concentration in the production of crude petroleum is far higher than that which obtains in the mining of bituminous coal. Between 15,000 and 18,000 producers operate some 355,000 wells in the United States.[42] But 20 major oil companies owned 23.7 percent of the producing wells in 1937, accounted for 52.5 percent of the Nation's output of crude, and held title to 75.6 percent of crude capacity. Ten companies owned half of the proved reserve and produced a third of the oil. The largest of them provided 6.2 percent of the total supply.[43]

The production of oil is nonetheless competitive. Accessible resources are abundant. Pools of appreciable size are known to exist in 22 of the States; production is carried on in 19. Estimates as to the probable extent of future reserves are constantly revised upward; the total size of the deposits is unknown. Exploration, prompted by the prospect of high profits, is continually going on. The chances against success in scientific drilling are said to be 6 or 7 to 1; in wildcatting they are as high as 20 to 1.[44] But there appears to be no lack of prospectors or of investors who are willing to take a chance. Discovery is unplanned, unregulated, and unpredictable. But it frequently produces pools of major size, as it did in 1927 and 1928 in Oklahoma, in 1929 in California, in 1930 and 1931 in Texas, and more recently in Illinois. As long as this process continues the concentration of control cannot be made complete.

The exploitation of a pool is necessarily competitive. Since title to land carries with it the ownership of subsoil rights, and since the distribution of surface holdings bears no relation to the boundaries of a subterranean reservoir, many owners can claim the oil which it contains and many producers can be granted access to it through their lands. Moreover, since oil moves underground without regard for lines of property, and since the law awards it to the first owner who brings it to the surface, a pool once tapped is exploited with all possible speed as each owner attempts to withdraw as much of its contents as he can get before it is drained by his neighbors. Oil is removed from the earth to be stored above ground; mounting production and accumulating stocks drive prices down; but drilling proceeds without reference to demand and oil flows as freely in depression as in pros-

[40] Bureau of Internal Revenue, Statistics of Income, 1917–36.
[41] Edwin G. Nourse and Associates, America's Capacity to Produce (Washington, 1934), p. 45.
[42] Hearings before Temporary National Economic Committee, Part 14, p. 7664.
[43] Ibid., pp. 7103, 7393, 7458, 7512, 7673; Part 14–A, p. 7714.
[44] Ibid., Part 14, pp. 7664–7665.

perity. The law of capture necessitates operation at capacity without regard to price. Proration of output among producers, if it can be enforced, will check the flow, but proration is not to be enforced without assistance from the State, and even then the way is open to expansion of output through exploration and discovery.

The price of petroleum has not been rigidly maintained. Pennsylvania crude showed 60 month-to-month changes, Kansas crude 45 changes, and California crude 19 changes from 1926 through 1933.[45] Mid-Continent crude (36° gravity) dropped from $2.14 a barrel to $0.62 in these 8 years.[46] This price, however, is not the product of impersonal forces alone. The major companies dominate the market in which the independent sells his crude, buying to refine and to store. Twenty majors, producing 52.5 percent of the crude in 1937, had 83 or 84 percent of the runs to stills and 96.5 percent of the stocks above ground.[47] In the market as a whole and in many producing fields, the position occupied by these buyers is that of oligopsony. One of the majors may take the lead in setting a price which the others will follow or several of them may agree upon a price that will be paid. In some fields, moreover, a single company in control of pipe line transportation stands as a monopsonist.[48] But the situation in which the independent producer finds himself is a competitive one. He does not control the price at which he sells.

FISHERIES

The fishery industry proper embraces the activities of vessel, boat, and shore fisheries in the United States and Alaska which, in 1937, had a gross catch of 4,350,000,000 pounds of fish and shellfish worth some $100,000,000. Ten species accounted for roughly 65 percent of the total value of the catch. Salmon caught in the Pacific Coast and Alaskan regions were worth more than all the fish, exclusive of shellfish, landed in New England. The catch of the Pacific Coast fisheries, consisting largely of tuna, California sardines, salmon, and halibut was valued at nearly $29,000,000; that of New England fisheries, consisting principally of cod, haddock, and shellfish, at about $20,000,000; and that of the Alaskan industry—nearly all of it salmon—at some $15,000,000.[49]

There are five-thousand-odd fishing vessels and some 70,000 fishing boats in the United States and Alaska, a vessel being a documented craft of 5 or more tons net capacity, a boat being an undocumented craft of smaller size. Most of the enterprises operating either type of craft are very small and the degree of concentration is low. Only a fifth of the vessels and less than a fifth of the boats are owned in fleets of two or more, some 4,000 vessels and some 60,000 boats being under separate ownership. Vessels account for 40 percent of the value of the total catch. But, if Alaska is excluded, only 1 vessel in 5 is operated by a corporation. The rest belong to individuals or partnerships and 9 out of 10 in this group are captained by an owner. A study of fishing vessels in New England and California revealed that the average gross operating revenue per vessel in 1933 was less

[45] Nelson and Keim, op. cit., p. 178.
[46] Hearings before the Temporary National Economic Committee, Part 14, p. 7456.
[47] Ibid., Part 14–A, pp. 7714, 7716.
[48] Cf. infra, pp. 88–90.
[49] Bureau of Fisheries, Fishery Industry of the United States, 1938, pt. 2.

than $25,000, while the average for vessels and boats together did not reach $2,000 in any area.[50] Between 60 and 65 percent of the total output is caught by enterprises which are not integrated to the wholesaling or processing functions.[51] Although exact figures are unavailable, it appears that no company's catch reaches 4 percent of the total. There have been many trade associations in the industry, but no effective control over prices or production. While the average price of fish fell 35 percent and that of 7 of the 12 major species more than 40 percent, the size of the catch fell only 19 percent from 1929 to 1933.[52]

A moderate amount of concentration is found in the New England industry. About 85 percent of the fish caught in this area is landed at Boston, where the largest fish pier in the world is located. It is estimated that 5 large trawler fleets brought in about 47 percent of the fish landed here in 1934, the Bay State Fishing Co. accounting for nearly 15 percent and the Atlantic Coast Fisheries Co. for some 12 percent.[53] The ability of these concerns to control the market for cod, haddock, mackerel, and other New England varieties is limited, however, by the competition of small-scale fishermen who can expand their operations at little expense when prices rise, by that of imports from the maritime provinces of Canada, by that of species produced in other sections of the United States, and by that of meat—especially pork—as a dietary substitute for fish. Price and production figures bear out the hypothesis of effective competition in this branch of the industry. The price of haddock fell 34.3 percent, that of cod 40 percent, and that of mackerel 55.6 percent from 1929 to 1933; the catch fell off only 19 percent. The catch of mackerel in 1932 was the largest in 50 years.[54]

The production of salmon is more highly concentrated than that of any other fish. The salmon companies are combined fisheries and canneries, the typical firm operating on a scale much larger than that found in the Atlantic fisheries. Among some 70 companies, 21 are fairly large and 2—Pacific-American Fisheries, Inc., and the Alaska Packers Association—accounted in 1937 for a quarter of the total pack.[55] The price of canned salmon, however, is relatively flexible. The price of the pink variety changed 30 times and that of the red variety 58 times from month to month in 1926–33. The price of pink salmon fell 50 percent and that of red salmon 47.2 percent from June 1929 to February 1933.[56] The size of the catch fell less than 2 percent between these years, but this figure is not of great significance, since stocks of canned salmon may be carried over to await a better price.

MANUFACTURES

In the great majority of manufacturing industries production is more highly concentrated than it is in most extractive fields. Among the 275 categories included in the Census of Manufactures for 1935, however, there were 20 in which the 4 largest firms produced less than 10 percent, by value, of the total output and 82 in which the 4 largest

[50] John R. Arnold, The Fishery Industry and the Fishery Codes, N. R. A., Division of Review, Work Materials No. 31 (mimeo., 1936), pp. 41–42.
[51] Ibid., p. 1.
[53] Ibid., pp. 2–3.
[53] Fortune, April 1935, p. 152.
[54] Arnold, op. cit., pp. 12, 28, 35.
[55] Cf. Moody's Industrials, 1938.
[56] Nelson and Keim, op. cit., p. 174.

produced less than 25 percent. In the latter group there were 23 industries which sold their products in local, regional, or other markets where a higher degree of concentration probably obtained and 10 others in which the 8 largest firms produced a third or more of the supply. When these are subtracted, there remain 49 manufacturing industries in which the index of concentration was relatively low. These industries are listed in the table which follows.[57]

Industries selling their products on a national market in which the four largest firms produced less than a quarter and the eight largest firms less than a third, by value, of the total output in 1935

Industry	Percent produced by the 4 largest	Percent produced by the 8 largest
Women's, misses', and children's apparel, not elsewhere classified	1.4	2.4
Fur goods	2.6	4.5
Printing and publishing, book, music, and job	4.4	6.5
Lumber and timber products, n. e. c	4.7	7.6
Men's, youths', and boys' clothing, n. e. c	5.1	8.8
Knit goods	5.3	8.5
Furniture	5.6	8.8
Men's cotton garments	7.5	16.9
Housefurnishings	7.7	12.7
Furnishing goods, men's	7.7	13.0
Cotton manufactures	8.4	14.4
Pocketbooks, purses, and cardcases	8.4	15.8
Jewelry	9.5	15.4
Embroideries, trimmings, etc	9.8	14.7
Silk manufactures	11.5	18.5
Miscellaneous articles, n. e. c	11.6	18.7
Models and patterns	11.7	16.7
Stamped and pressed metal products	12.0	18.6
Electroplating	12.4	17.7
Confectionery	12.5	19.9
Dyeing and finishing cotton, rayon, and silk	13.9	22.3
Boxes, paper, n. e. c	14.1	20.7
Paper goods, n. e. c	14.2	23.7
Gloves and mittens, leather	14.4	23.2
Paper	14.7	21.6
Waste and related products	14.9	24.1
Baskets and rattan and willow ware	15.1	25.6
Buttons	15.4	27.0
Stoves and ranges (other than electric) and warm-air furnaces	16.1	23.0
Macaroni, spaghetti, vermicelli, and noodles	16.1	26.4
Brooms	16.2	23.0
Toys, games, and playground equipment	16.6	25.6
Insecticides and fungicides	16.6	27.1
Mirror and picture frames	17.0	31.2
Butter	17.2	25.7
Trunks, suitcases, and bags	17.2	26.4
Caskets, coffins, burial cases and other mortician's goods	17.6	23.5
Hand stamps and stencils and brands	18.1	28.9
Rayon manufactures	18.5	27.1
Cheese	18.6	22.5
Minerals and earths, ground or otherwise treated	18.8	32.2
Pottery, including porcelain ware	19.0	29.1
Leather goods, n. e. c	19.1	26.5
Rubber goods other than tires, tubes, boots, and shoes	19.2	28.5
Cash registers, adding machines, and other business machines	21.3	31.4
Screw machine products and wood screws	22.2	32.9
Canned and dried fruits and vegetables; preserves, jellies, fruit butters, pickles, and sauces	22.7	30.4
Wood turned and shaped and other wooden goods, n. e. c	23.6	28.6
Wool and hair manufactures	24.2	32.9

Since an industry, as defined by the census, may manufacture many different products and since any one product may be made by but a few of the concerns that are classified as belonging to the industry, the actual degree of concentration within the foregoing fields may not be as low as the figures in the table would suggest. When data covering 1,807 representative products, nearly half by number and more than half by value of those included in the Census of Manu-

[57] National Resources Committee, The Structure of the American Economy, Part I, pp. 248–258, 265–269.

factures, for 1937, were analyzed by the Bureau of Foreign and Domestic Commerce, it was found that the largest manufacturer accounted for less than 5 percent, by value, of the total output of 20 products, for less than 10 percent of 110, and less than 25 percent of 670, and that the 4 largest accounted for less than 10 percent of 8 and less than 25 percent of 90. When goods which were not sold in Nation-wide markets and those which had a total value of less than $10,000,000 are eliminated, there remain 48 important products in whose manufacture the degree of concentration was relatively low. If the same situation obtains with respect to goods which were not covered by the survey, this number could be doubled. The 48 products which were included in the Bureau's sample are listed in the table which follows.[58]

Products valued at more than $10,000,000 each, in whose manufacture the four largest producers controlled less than a quarter of the total output in 1937

Product	Number of producers	Percent produced by the four largest
One-piece dresses (except house dresses) made to retail for $2 and over	545	3.1
Coats, women's, misses', and juniors'	885	7.6
Tomatoes, canned	787	8.9
Trousers and knickers, wholly or partly wool	415	9.7
Overcoats and topcoats	587	11.9
Suits, men's and youths', 3-piece	634	13.5
Suits, women's, misses', and juniors'	358	14.0
Wood bedroom suites	212	14.1
Awnings	365	14.5
Beans, canned green-pod	320	15.7
Work pants and breeches	304	16.3
One-piece dresses (except house dresses) made to retail under $2	220	16.8
Wood davenports, sofas, day beds, studio couches, etc., upholstered	561	16.9
Wood chairs and rockers, upholstered, pull-up or occasional	251	16.9
Wood living room and dining room suites, upholstered	523	17.0
Mattresses, other than inner-spring	504	18.0
Macaroni, spaghetti, and vermicelli	263	18.7
Ensembles (dresses)	119	18.9
Stove and furnace pipe and flue and air ducts	443	18.9
Jigs, fixtures, etc., and specially designed tools	781	19.0
Skirts, women's, misses', and juniors'	129	19.0
Sheetings	93	19.1
Corsets, girdles, and garter belts	156	19.3
Pottery, including porcelain ware, electrical supplies, other types	37	19.4
Corn meal	1,256	19.5
Women's boots and shoes, cemented	175	19.8
Store and lunch room furniture: Counters, tables, partitions, window backs, showcases, wall cases, and cabinets	396	20.2
Noodles	329	20.7
Feed, screenings, etc	1,087	20.9
Radio coils and condensers, etc	151	21.0
Men's seamless hosiery	366	21.2
Wood dressers, vanity dressers, commodes, and dressing tables	187	21.9
Misses' and children's boots and shoes, welted	72	21.9
Women's boots and shoes, welted	150	22.0
Rough brass and bronze castings	806	22.1
Plain print cloth (36 inch and wider)	83	22.3
Men's and youths' shirts	303	22.5
Clear lacquers	200	22.5
Other filament rayon dress goods	49	23.3
Wood window and door screens	1,100	23.4
Boots and shoes, canvas, satin, and other fabric uppers with leather soles, cemented	74	23.5
Canned corn	313	23.6
Men's and youths' 3-piece suits with extra trousers	241	23.6
Boots and shoes, part leather and part fabric uppers, with leather soles, cemented	103	23.9
Canned peas	313	24.0
Wood dining room suites	118	24.2
Women's full-fashioned pure thread silk hosiery	129	24.4
Galvanized iron gutters, downspouts, carriers, ventilators, etc	570	24.8

[58] Willard L. Thorp and Walter F. Crowder, The Structure of Industry, Temporary National Economic Committee, monograph No. 27, Part III, Concentration of Production in Manufacturing, appendix A.

Among the 16 major industrial groupings employed by the Census of Manufactures, that of "textiles and their products," including 24 industries engaged in the spinning, weaving, and processing of various fabrics and in the production of wearing apparel and certain house furnishings, with more than 20,000 establishments, nearly 2,000,000 employees, an annual output valued at $7,000,000,000, and a value product estimated at nearly $3,000,000,000, accounted, in 1937, for an eighth of the total number of manufacturing establishments, more than a fifth of the total number of wage earners, and between a ninth and an eighth of the value of the total output and the value added by manufacture, ranking third among the 16 groups in number of establishments, first in number of employees, third in the value of its output, and fourth in value added by manufacture.[59] In almost every one of the industrial categories included in this group, conditions conducive to effective competition appear to obtain.

COTTON TEXTILES

The cotton textile industry, producing a great variety of fabrics for domestic and industrial uses, comprises all spinning and weaving mills which use cotton fiber or yarn as raw material. In 1937, there were 1,237 establishments[60] and more than 435,000 wage earners in the industry and its output was valued at more than $1,250,000,000. It employed 5 percent of the workers engaged in manufacturing and produced more than 2 percent, by value, of the output of manufactured goods.[61]

Structurally, the industry is complex. There are units engaged exclusively in spinning, others in weaving, and still others in which these functions are combined. There are 30 or 40 subdivisions, each producing a fabric of a special type. Statements made for the industry as a whole must therefore be modified when applied to its specific segments, but it may be said, in general, that producers are numerous, small, and widely scattered, that entrance is unobstructed, that production shows little concentration, and that prices are flexible and profits low.

Among all of the cotton textile establishments in the United States in 1929, four-fifths had fewer than 500 employees each and three-fifths had fewer than 250. The output of 3 establishments in 5 was valued at less than $1,000,000 and that of 2 in 5 at less than $500,000.[62] Among more than 900 mills engaged in spinning, it was reported in 1938 that there were only 18 with more than 150,000 spindles and that they accounted for only 18 percent of the total spindlage. The largest mill in the industry had only a thirtieth of the total. More than half of the spindles were in mills with less than 60,000 each, more than a fourth of them in mills with less than 30,000.[63]

The prevalence of small units may be attributed to the fact that productive efficiency, in nearly all of the branches of the industry, can be achieved by mills of moderate size. In the production of

[59] Census of Manufactures, 1937.
[60] As used in the Census of Manufactures, an establishment usually means a single plant or factory.
[61] Census of Manufactures, 1937.
[62] Fifteenth Census of the United States, Manufactures, 1929.
[63] H. E. Michl, The Textile Industries (Washington, 1938), pp. 92–93.

print cloth, for instance, a mill of 60,000 spindles, costing perhaps $500,000, is large enough to realize the principal economies of large scale operation. For coarser yarn fabrics, such as sheeting, a mill of 30,000 spindles will suffice.[64] Thus an establishment with but a tiny fraction of the total spindlage can operate with high efficiency. As a consequence, admission to the industry can be obtained with an investment that is smaller than that required in many other fields and new entrants can compete successfully with older and larger firms. Opportunity for new enterprises, under skillful management, is created, too, by the factor of style and by the constant fluctuation of the prices of cotton and finished goods.

The degree of concentration in the industry is comparatively low. The largest 4 among 900 to 1,000 firms operated 25 establishments which produced 8.4 percent of the total output, by value, in 1935, and the largest 8 operated 58 establishments which produced 14.4 percent.[65] The 15 largest companies selling cotton yarn accounted for only 18.3 percent of the production, the largest of them for only 4.8 percent, in 1934–35. The 15 largest selling woven goods accounted for only 40.0 percent, the largest of them for only 4.6 percent.[66] Concentration, of course, is higher where individual fabrics are concerned. Among the 10 most important products of the industry in 1937, there were 3—tire cord fabric, Turkish and terry-woven towels, and denims—in which the 4 largest producers provided about three-fourths of the supply.[67] Tire cord fabric is a special case, the largest mills being owned and operated by manufacturers of tires. Toweling is dominated by a single firm. In denims, one company sold a fifth of the total output in 1933.[68] Among the 10 leading products, however, there were 7 in which the 4 largest producers provided less than half and 2 in which they provided less than a fourth of the supply.[69] Concentration by product is lower in the manufacture of cotton textiles than in manufacturing as a whole. The combination movement has made slight headway in this industry. Mergers do not promise to cut the costs of operation. It is impracticable to purchase a large enough number of units to obtain substantial control over price. And finally, the existence of many small producers would constitute an ever-present threat to the maintenance of such control.[70]

The prices of cotton textiles are highly flexible. Among 25 of the industry's products, 4 showed more than 90 month-to-month price changes in 95 months in 1926 through 1933; 12 showed more than 60 changes; 18 showed more than 30; none showed less than 12. The prices of 24 products dropped more than 30 percent from June 1929 to February 1933; those of 21 dropped more than 40 percent; those of 14 dropped more than 50 percent. The price of heavy drill fell 63 percent, that of light drill 64 percent.[71] During these years the production of cotton goods declined by only 26 percent.[72] From

[64] S. J. Kennedy, Profits and Losses in Textiles (New York, 1936), pp. 185–186.
[65] National Resources Committee, op. cit., pp. 250–251.
[66] Federal Trade Commission, Agricultural Income Inquiry, Part I (1937), pp. 319–320.
[67] Thorp and Crowder, loc. cit.
[68] Federal Trade Commission, op. cit., pp. 316–317, 321.
[69] Thorp and Crowder, loc. cit.
[70] Cf. C. E. Fraser and G. F. Doriot, Analyzing Our Industries (New York, 1932), pp. 132–133.
[71] Nelson and Keim, op. cit., pp. 176–177.
[72] Association of Cotton Textile Merchants, Ten Years of Cotton Textiles (a table, New York, 1940).

their depression lows to their peaks in 1937, the prices of 4 products rose by more than 150 percent, those of 11 by more than 100 percent, and those of 20 by more than 75 percent.[73] In the same period, production rose by 33 percent.[74]

Profits in the industry as a whole have been something less than moderate. The average annual rate of return on the average investment in the business realized by spinning companies, numbering from 108 to 113, reporting to the Federal Trade Commission for the period from January 1933 to July 1936, stood at 2.96 percent, ranging from a profit of 5.61 percent in 1933 to a loss of 0.35 percent in 1935. The return obtained by 53 to 72 weaving companies also stood at 2.96 percent, ranging from a profit of 7.15 percent in 1933 to a loss of 0.03 percent in 1934. The return obtained by combined spinning and weaving companies, numbering from 264 to 302, stood at 3.00 percent, ranging from a profit of 6.68 percent in 1933 to a loss of 1.04 percent in 1935. The return obtained by 77 to 91 dyeing and finishing companies stood at 3.24 percent, ranging from a profit of 7.50 percent in 1936 to a loss of 0.07 percent in 1934.[75] Among the cotton textile manufacturing corporations reporting to the Bureau of Internal Revenue, numbering from 800 to 1,000 in each of the years from 1927 through 1936, less than two-thirds received any net income in 9 of the 10 years, less than half in 6 years, and less than a quarter in 1930, 1931, and 1932. The net incomes of profitable corporations exceeded the net deficits of unprofitable corporations by $186,186,000 over 6 of these years; net deficits exceeded net incomes by $219,001,000 over 4 years; the industry experienced an aggregate net deficit of $32,815,000 during the decade as a whole.[76]

WOOLEN AND WORSTED GOODS

The woolen and worsted goods industry comprises mills engaged in the combing and scouring of wool, the spinning of weaving or knitting yarns, and the weaving, dyeing, and finishing of apparel fabrics, blankets, and upholstery in which wool is the raw material. While some mills specialize in spinning and others in weaving, in most of them both operations are combined. In 1937, some 700 establishments, employing more than 150,000 workers, produced a total output valued at more than $800,000,000.[77] Since 560 corporations and more than 100 individual enterprises and partnerships were included in the industry in 1936,[78] it is apparent that nearly every one of these establishments is operated by a separate firm. Most of these undertakings are relatively small. In 1929, three-fourths of the establishments had less than 250 employees, half of them less than 100, and nearly a third of them less than 50. The output of 7 establishments in every 10 was valued at less than $1,000,000, that of 5 at less than $500,000, and that of 3 at less than $250,000.[79]

[73] Nelson and Keim, op. cit., pp. 176–177.
[74] Association of Cotton Textile Merchants, loc. cit.
[75] Computed from Federal Trade Commission, Textile Industries in the First Half of 1936, Part I, The Cotton Textile Industry (1937), p. 6.
[76] Computed from Bureau of Internal Revenue, Statistics of Income, 1927–36.
[77] Census of Manufactures, 1937. Census figures for this industry include a small number of manufacturers of hair products.
[78] Bureau of Internal Revenue, Statistics of Income, 1936, p. 63.
[79] Fifteentth Census of the United States, Manufactures, 1929.

Production is more highly concentrated here than in the cotton textile industry. Nearly a fourth of the output, by value, was produced, in 1935, by the leading 4 concerns, nearly a third of it by 8 concerns.[80] Among the 10 principal products of the industry, there were 7 in which the 4 largest firms produced between a third and a half of the total output in 1937, 2 in which they produced from one-half to three-fourths, and 1 for which the degree of concentration was not disclosed.[81] The American Woolen Co., the largest concern in the industry, accounted for about 12 percent of its total sales.[82] Further concentration is limited, however, by the advantage which the nature of the wool market and the factor of style give to the smaller firm. Since the large producer cannot readily purchase enough material in the open market to meet his needs, he is likely to accumulate a substantial inventory. Since he cannot hedge against this commitment, he may incur an inventory loss. Since his supply consists of special grades of wool, he may find it difficult to shift quickly to the production of styles requiring other grades. Complexity of organization also militates against adaptability. The small concern is more flexible. It can satisfy its material requirements in the open market, buying from hand to mouth. It can adjust its purchases to swiftly changing styles. It can base its sales appeal upon the quality of its fabrics and the uniqueness of their weave. It can initiate its own designs and copy the successful designs of the larger firms. It can produce style goods in the small quantities in which they are often sold. It can thus compete effectively with enterprises many times its size. The survival of the smaller units in the industry thus appears to be assured.

The prices of woolen and worsted goods are less flexible than those of other textiles. Among 13 of the industry's products, 4 changed less than 20 times in price from month to month in 1926–33; 5 changed between 20 and 30 times; and 4 changed more than 30 times. Weaving yarn, with 72 price changes, showed the greatest flexibility. Among 14 products, 12 showed price declines of 35 to 50 percent from June 1929 to February 1933; 1 fell only 23 percent; and 1 fell 56 percent.[83] Production during the same period dropped off by something over 20 per cent.[84]

Profits in the industry have not been large. The Federal Trade Commission has published figures showing the average annual rate of return on money invested in the business for 46 to 61 spinning companies, 18 to 30 weaving companies, 125 to 157 combined spinning and weaving companies, and 5 to 10 dyeing and finishing companies during the period from January 1933 to June 1936. The return realized by the spinning companies averaged 3.40 percent, ranging from a profit of 6.97 percent in 1933 to a loss of 4.09 percent in 1934; that realized by the weaving companies averaged 3.73 percent, ranging from a profit of 10.16 percent in 1933 to a loss of 10.02 percent in 1934; that realized by the combined spinning and weaving companies averaged 5.64 percent, ranging from a profit of 9.14 percent in 1936 to a loss of 4.64 percent in 1934; and that realized by the dyeing and finishing com-

[80] National Resources Committee, op. cit., pp. 248–249.
[81] Thorp and Crowder, loc. cit.
[82] D. W. Malott and B. F. Martin, The Agricultural Industries (New York, 1939), pp. 441–442.
[83] Nelson and Keim, op. cit., p. 177.
[84] Estimate from Census of Manufactures, 1931, 1933.

panies averaged 2.92 percent, ranging from a profit of 8.41 percent in 1933 to a loss of 5.08 percent in 1934.[85] The large number of producers in this industry, the moderate degree of concentration, the advantages enjoyed by the small concern, the relative flexibility of prices, and the absence of high profits combine to create a presumption that it is effectively competitive.

SILK AND RAYON

This industry includes the throwing, spinning, and weaving of silk and rayon, but not the production of rayon yarn and staple which is carried on by a branch of the chemical industry. In 1937 its 848 establishments employed nearly 117,000 workers and produced an output valued at more than $400,000,000.[86] Since there were 815 corporations and a number of individual enterprises and partnerships engaged in the industry in 1936,[87] it is evident that nearly every one of these establishments was operated by a separate firm.

The typical unit in the industry is small. In 1929, 77 percent of its establishments had fewer than 100 employees, 59 percent had fewer than 50, and 37 percent fewer than 20. The output of 77 percent of these establishments was valued at less than $500,000 each, that of 64 percent at less than $250,000, and that of 44 percent at less than $100,000.[88] In the weaving of broad goods (18 inches and over in width), the most important portion of the industry, producing units fall into 3 distinct size groups. Large mills, with 1,000 or more looms each, numbering 35 and representing 3 percent of the total, operate 35 percent of the looms. Mills of medium size, numbering 325 and representing 27 percent of the total, operate 58 percent of the looms. Small mills, with fewer than 100 looms, most of them with fewer than 25 looms, numbering 842 and representing 70 percent of the total, operate 17 percent of the looms.[89]

Most of the smaller units are located in Paterson, N. J. Many of them, according to Michl, "are so-called 'family shops.' They frequently occupy only a small space (40 x 40 feet) in a loft building, the firms being separated from one another by flimsy chicken-wire screening. Sometimes only 3 or 4 looms constitute the entire equipment, and are manned by parents and children."[90] Many factors have combined to keep the scale of operation small. The highly styled character of silk and rayon goods prevents the development of mass production. Geographical centralization in the Paterson area and its proximity to the New York market have led to specialization by function and fabrication on a commission basis. Unemployment among weavers, during the twenties, and the availability of a large supply of second-hand looms that could be purchased on easy terms, says Michl, "caused many weavers to enter the industry as 'manufacturers.' Second-hand looms were purchased or leased at low cost, a small space was rented in a loft building, and the silk was provided

[85] Computed from Federal Trade Commission, Textile Industries in the First Half of 1936, part II, The Woolen and Worsted Textile Industry (1937), p. 3.
[86] Census of Manufactures, 1937.
[87] Bureau of Internal Revenue, Statistics of Income, 1936, p. 63.
[88] Fifteenth Census of the United States, Manufactures, 1929.
[89] M. Copeland and W. Turner, Production and Distribution of Silk and Rayon Broad Goods, p. 19, cited in Michl, op. cit., p. 234.
[90] Michl, loc. cit.

by the converter. Thus, very little investment was necessary."[91] This situation has given the smaller units a marked advantage over the larger ones. With higher fixed charges, higher wage rates, bigger inventories, and higher designing costs, the larger firms have found it difficult to compete.

The turn-over among producers has been rapid. From 1921 to 1929, 1,093 firms with 61,363 looms left the broad goods portion of the industry, while 1,218 firms with 61,987 looms took their places.[92] From 1935 to 1937, the number of rayon establishments reported by the census dropped from 447 to 425, a decline of 22; the number of silk establishments dropped from 658 to 423, a decline of 235.[93] Ease of entry and departure operates to keep the industry competitive.

The larger firms account for relatively small portions of the output of silk and rayon goods. In 1935 the 4 largest producers of rayon turned out 17.3 percent, by value, of the total supply; the 4 largest producers of silk turned out 8.5 percent. The 8 largest concerns produced 25.6 percent of the rayon and 16.7 percent of the silk.[94] Concentration by product, of course, is higher. The share of the total output in the hands of 4 concerns, in 1937, ranged from 23 to 69 percent in the case of the principal products of rayon and from 37 to 77 percent in the case of silk.[95]

The industry is characterized by flexible prices, low profits, and frequent losses. While the price of rayon is less sensitive than that of silk, it showed 22 monthly changes from 1926 through 1933 and fell by 54 percent from June in 1929 to February 1933.[96] Among 55 to 70 companies engaged in throwing, annual profits on investment in the business averaged 2.86 percent from January 1933 to June 1936. Among 107 to 126 companies engaged in weaving, profits averaged 1.32 percent when gains in other years were balanced against a loss of 0.63 percent in 1935. Among 38 to 49 companies performing both processes, losses averaging 2.08 percent for the period were incurred in every year. Among 59 to 71 dyeing and finishing companies, losses averaged 6.87 percent and ranged from 3.80 percent in 1934 to 11.53 percent in 1935.[97]

KNITTED GOODS

The knitted goods industry includes all of those concerns which employ machinery in knitting purchased yarns into garments or cloth. In 1937 it had more than 230,000 workers, about 2½ percent of those engaged in manufacturing, and an output valued at more than $660,000,000. The three major branches of the industry produce hosiery, knitted underwear, and knitted outerwear. In 1937, the hosiery branch had more than 150,000 workers and an output valued at some $360,000,000. About one-third of its product by volume and two-thirds by value consisted of women's full-fashioned hosiery; about two-thirds by volume and one-third by value of men's, women's, and children's seamless hosiery. The knitted underwear branch had nearly 40,000 workers and an output valued at nearly $118,000,000. The knitted outer-

[91] Michl, op. cit., p. 238.
[92] Copeland and Turner, op. cit., p. 22, cited in Michl, op. cit., p. 239.
[93] Census of Manufactures, 1935, 1937.
[94] National Resources Committee, op. cit., pp. 250–251.
[95] Thorp and Crowder, loc. cit.
[96] Nelson and Keim, op. cit., p. 177.
[97] Computed from Federal Trade Commission, Textile Industries in the First Half of 1936, Part III, The Silk and Rayon Textile Industry (1937), p. 3.

wear branch, with more than 26,000 workers, produced sweaters, bathing suits, athletic apparel, women's and misses' suits and dresses, infants' wear, headwear, neckwear, slippers, and other garments valued at nearly $107,000,000.[98]

Firms in the industry are numerous and most of them are small. In 1935 there were 1,758 companies operating 1,864 knitting mills, more than 86 percent of them engaged in a single branch of the industry, more than 95 percent of them owning a single mill, and more than 98 percent of them operating in a single State. There were 749 companies producing hosiery, 204 producing underwear, and 857 producing outerwear. Most of these concerns were small. The value of the output of the average plant was smaller than that found in the silk industry and only one-third as large as that found in the cotton and wool textile industries. In the hosiery branch, where the largest companies each operated more than 1,000 knitting machines, three-fifths of the firms had fewer than 100, two-fifths fewer than 50, and one-fourth fewer than 25. Half of the establishments had fewer than 100 employees. In the underwear branch, where the largest companies operated more than 500 machines, half of the firms had fewer than 50 and a fifth had fewer than 25. Here, again, half of the establishments had fewer than 100 employees. In the outerwear branch, where the largest companies also operated more than 500 machines, four-fifths of the firms had fewer than 50 and two-thirds had fewer than 25. Here, in 1937, three-fifths of the establishments had fewer than 20 employees, four-fifths had fewer than 50, and nine-tenths had fewer than 100. The products of nearly a fourth of the mills were valued at less than $20,000, those of nearly half at less than $50,000, and those of more than nine-tenths at less than $500,000.[99]

The degree of concentration in the industry is relatively low. The four largest producers of knitted goods accounted for only 5.3 percent and the eight largest for only 8.5 percent of the value of the total output in 1935.[1] Concentration within the different branches of the industry, however, is higher. The four leading producers in each case accounted in 1937 for a fourth of the output of women's full-fashioned silk hosiery and a fifth of the output of men's seamless hosiery, the two major products of the hosiery branch.[2] In this branch, one-tenth of the companies had half of the knitting machines and half of the establishments had nine-tenths of the employees. In the underwear branch, one-fourth of the concerns had two-thirds of the machines and half of the establishments had nine-tenths of the employees. In the outerwear branch, a fifth of the firms had more than half of the machines and a fifth of the establishments had two-thirds of the employees.[3]

A number of factors contribute to the competitive character of the industry. The element of style is important, particularly so in the case of outerwear. Substitutes are readily available; knitted under-

[98] Census of Manufactures, 1937.

[99] W. A. Gill and others, The Knitting Industries, N. R. A. Division of Review, Work Materials No. 80 (mimeo.), pp. 12, 16, 19, 30, 37; Economic Section, Wage and Hour Division, Department of Labor, Report on the Knitted Underwear and Commercial Knitting Industry (mimeo., 1939), p. 20, Report on the Knitted Outerwear Industry (mimeo., 1939), p. 33.

[1] National Resources Committee, op. cit., pp. 250–251.

[2] Thorp and Crowder, loc. cit.

[3] Gill, op. cit., pp. 16, 30; Economic Section, loc. cit.

wear and outerwear must both compete with garments produced by other processes. There are no serious obstacles to entrance into any section of the field. Equipment for the production of full-fashioned hosiery requires a moderate expenditure, each machine costing between $8,000 and $9,000. A small seamless plant can be equipped for less than $5,000, new machines being obtainable at about $350 and second-hand ones at even lower costs.[4] The size of the investment necessary for the production of outerwear varies from product to product. New machines can be bought at prices ranging from $600 to $3,000, second-hand ones at two-thirds or even at one-third of these figures; both can be bought on instalments with down payments amounting usually to one-fourth but sometimes to as little as one-tenth of the price. It has been estimated that a plant can be set up in rented space with three or four second-hand power machines and a few sewing machines at an outlay of less than $2,000.[5] Small producers find it easy to obtain credit from yarn jobbers and working capital from factors who advance money on the security of their open accounts.[6] Nearly a fourth of those engaged in this branch of the industry are contractors who do not even purchase the yarns which they use, accepting them on consignment from jobbers or manufacturers. Contract shops produce about a tenth of the total output of knitted outerwear.

The prices of knitted goods are flexible, changing with relative frequency and declining during depression. Prices were cut and the volume of production was maintained after 1929. The wholesale prices of men's cotton and silk hosiery changed 24 times, those of women's rayon and silk hosiery 35 times from 1926 through 1933. The prices of men's cotton hosiery dropped 40 percent, those of men's silk hosiery 47 percent, and those of women's rayon and silk hosiery 59 percent from June 1929 to February 1933.[7] The production of hosiery fell only from 9,870,000 dozen pairs in 1929 to 8,904,000 dozen in 1933; the dollar value of the output fell from $528,700,000 to $263,700,000 in the same period.[8] The price of men's cotton underwear changed 27 times and that of women's cotton union suits 13 times in 1926–33, the former dropping 29 percent and the latter 43 percent from June 1929 to February 1933.[9] The production of knitted underwear other than infants' wear fell off only 10 percent, the value of the output more than 40 percent.[10] The prices of various types of outerwear also dropped sharply during the depression and here, too, the volume of production was generally maintained.

Such data as are available on profits and business mortality support the hypothesis that the industry is effectively competitive. Its best year in the period 1926–33 was 1928 when its members realized an average net income of 7.17 percent on net worth and more than a third of them reported no net income. Its worst year was 1932 when its members suffered an average deficit of 6.46 percent and three-fourths of them showed no net profit. In 6 of the 8 years its profit rate was lower or its deficit rate higher than those experienced in manufacturing

[4] Gill, op. cit., pp. 42–43.
[5] Economic Section, Report on the Knitted Outerwear Industry, pp. 57, 111.
[6] Cf. Hearings before the Temporary National Economic Committee, Part 9, pp. 3993–4005.
[7] Nelson and Keim, op. cit., p. 177.
[8] Gill, op. cit., p. 62; Census of Manufactures, 1939, 1933.
[9] Nelson and Keim, op. cit., p. 177.
[10] Census of Manufactures, 1929, 1933.

as a whole.[11] In a sample which covered from 74 to 106 producers of knitted outerwear in each of the years from 1931 through 1937, net income on tangible net worth ranged from an average loss of 4.08 percent in 1932 to an average gain of only 4.23 percent in 1936.[12] The turnover of firms in each of the branches of the industry is relatively high. There were 350 full-fashioned hosiery plants in operation at the end of 1936; 42 of these were closed and 88 others were opened during 1937 and 1938; 396 were in operation at the beginning of 1939. There were 485 seamless hosiery plants at the end of 1936; 53 closed and 82 opened in 1937–38; there were 514 at the beginning of 1939. There were 923 knitted outerwear mills at the end of 1935; 86 closed and 49 opened in 1936; 44 closed and 38 opened in 1937; 55 closed and 31 opened in 1938; there were 856 at the beginning of 1939.[13]

MEN'S, YOUTHS', AND BOYS' CLOTHING

Establishments engaged in the production of men's, youths', and boys' suits, overcoats, topcoats, and separate coats and trousers numbered 2,217 in 1937, employed more than 138,000 workers and had a total output valued at more than $618,000,000.[14] A few of these establishments operated on a large scale, but most of them were small and the degree of concentration was low. Forty-five percent of them had fewer than 5 workers in 1929, 67 percent had fewer than 20, and 84 percent fewer than 50. The output of 45 percent was valued at less than $50,000 each and that of 60 percent at less than $100,000.[15] The four largest firms in the industry accounted in 1935 for only 5.1 percent, the eight largest for only 8.8 percent of its total output.[16] The four largest producers, in each case, accounted in 1937 for only 13.5 percent of the output of men's and youths' three-piece suits, 11.9 percent of the output of men's and youths' overcoats and topcoats, and 9.7 percent of the output of separate trousers and knickers.[17] The smaller units in the industry are apparently able to compete effectively with the larger ones. In one sample study, for instance, it was found that the medium-sized plants realized an average annual return of 9.2 percent on net worth, the small plants 7.2 percent, and the large plants only 3.6 percent.[18]

Admission to the industry is not impeded by heavy capital requirements. A wholesale establishment with an inside manufacturing shop may be set up with an investment of $50,000 to $75,000; many have been started with as little as $25,000. An establishment without an inside shop may be opened for even less. According to one authority:[19]

> With a rental loft, a pair of shears and a cutting table, a cutter and a salesman are in business. Piece goods may be obtained on credit from a commission house

[11] Gill, op. cit., pp. 21–23.
[12] Roy A. Foulke, Dun & Bradstreet, Inc., Behind the Scenes of Business (1937), pp. 136, 192; Signs of the Times (1938), pp. 30, 38; They Said it With Inventories (1939), pp. 22–28.
[13] Economic Section, Report on the Full-Fashioned Hosiery Industry (mimeo., 1939), p. 5; Report on the Seamless Hosiery Industry (mimeo., 1939), p. 4; Report on the Knitted Outerwear Industry, p. 127.
[14] Census of Manufactures, 1937.
[15] Fifteenth Census of the United States, Manufactures, 1929.
[16] National Resources Committee, op. cit., pp. 250–251.
[17] Thorp and Crowder, loc. cit.
[18] J. W. Hathcock and others, The Men's Clothing Industry, N. R. A. Division of Review, Work Materials No. 58 (mimeo.), p. 55.
[19] Ibid., p. 54.

or jobber; samples are cut and given to an outside manufacturer, or contractor, who is paid for his labor. If the samples are favorably received and orders result, more materials are obtained on credit and the process repeated with the contractor. With no more than $2,000 to $5,000 capital such a small concern, if commitments are limited to business obtained from sample showing to sound retailers, may thrive in capable hands.

The investment which must be made by a submanufacturer or contractor is still lower, amounting in some cases to as little as $500. Sewing machines and other equipment are rented or bought at second hand. Cut materials are furnished by the wholesaler. Labor and overhead costs are covered by his payments. Two factories in five are operated on this basis; in 1937 such establishments employed a third of the workers in the industry and produced a fifth of its total output. With producers numerous, concentration low, small-scale operation feasible, and entrance unobstructed, there is active competition among the members of the trade. And since sportswear, summer clothing, and separate trousers made of cotton and cotton mixtures are frequently substituted for heavier garments, they must also compete with several hundred firms in the men's cotton garment industry. As a result, their prices are flexible and their profits low.

The prices of men's three-piece suits and topcoats dropped 23 percent, those of men's, youths', and boys' four-piece suits from 30 to 37 percent, and those of dress trousers and knickers 38 and 59 percent, respectively, from June 1929 to February 1933.[20] The profits obtained by 200 clothing manufacturers for whom data were available over a period of 20 years ran between 4 and 5 percent of net sales. The average annual return realized by 3 to 11 clothing corporations during the period from 1920 to 1935 stood at 5.6 percent of their investment, ranging from a loss of 16.1 percent in 1932 to a gain of 11.1 percent in 1923.[21] This sample, however, is not large enough to be representative and it is likely that earnings, in general, were lower than these figures would suggest. It is estimated, for instance, that the life expectancy of the typical manufacturing unit in the industry is only 7 years.[22]

Establishments engaged in the production of men's cotton garments numbered 1,573 in 1937, employed 166,000 workers, and had a total output valued at more than $460,000,000. Among them were 675 establishments producing work and sport garments, 529 producing shirts, collars, and nightwear, 232 producing trousers, wash suits, and service apparel, 78 producing leather and sheep-lined clothing, and 59 producing men's underwear.[23] Most of these units are owned by separate companies; a single plant was operated by each of 95 percent of the firms in the industry in 1934.[24] Some of the members of the trade are manufacturers who perform all of the operations involved in the production of the garments which they sell; some are manufacturers who perform certain operations and let others out on contract; some are wholesale distributors who farm out all of their manufacturing processes; some are contractors, 120 of the 529 establishments in the shirt, col-

[20] Nelson and Keim, op. cit., p. 176.
[21] Robert J. Myers, The Economic Aspects of the Production of Men's Clothing (University of Chicago doctoral dissertation, 1937), p. 19.
[22] Hathcock, op. cit., p. 52.
[23] Census of Manufactures, 1937.
[24] N. R. A. Division of Review, Evidence Study No. 8, The Cotton Garment Industry (mimeo.), p. 5.

lar, and nightwear branch falling into this category in 1937. Here, as in the men's clothing industry, there are a few large units and many small ones, entrance is unobstructed, and the degree of concentration is low. The four largest firms produced 7.5 percent and the eight largest 16.9 percent of the output of men's cotton garments in 1935.[25] The four largest, in each case, made 22.5 percent of the dress shirts, 36.8 percent of the work shirts, 31.3 percent of the overalls, 16.3 percent of the work pants, and 29.5 percent of the pajamas and nightshirts in 1937.[26] The prices of the industry's leading products fell by one-third during the depression of the thirties while the volume of production was substantially maintained.[27] The average annual net profit of firms manufacturing shirts, pajamas, and underwear stood at 4.50 percent of net worth, that of firms making work clothing at 5.48 percent in the years from 1933 through 1937.[28] All of these facts suggest that the industry is effectively competitive.

Establishments engaged in the production of hats, hat bodies, caps, and hat and cap materials numbered 528 in 1937, employed 29,000 workers, and had an output valued at $123,000,000.[29] Here, again, a few of the establishments are large and most of them are relatively small. Some of the smaller concerns rent their equipment and many of them merely provide the labor which is required to finish materials supplied by retailers. In general, however, the amount of capital needed for entrance is larger than in the men's clothing and cotton garment industries and the degree of concentration is comparatively high, the four largest producers accounting for 23.7 percent and the eight largest for 33.8 percent of the output in 1935.[30] In spite of these facts, the industry appears to be keenly competitive. The practice of going hatless cut the market for men's hats during the 1930's and led manufacturers to shift to the production of bodies for women's hats where they were in competition with members of the millinery trade. The introduction of low-priced brands and the production of unbranded hats by several of the larger firms cut the sale of high-priced branded hats and intensified competition in the low-priced field. The average value of men's sewed braid straw hats fell from $19.82 per dozen in 1929 to $10.70 in 1935 and rose only to $11.30 in 1937. That of woven body straw hats fell from $35.89 in 1929 to $12.04 in 1935 and to $11.88 in 1937. That of men's fur felt hats fell from $50.25 in 1929 to $30.08 in 1935 and rose only to $35.74 in 1937. That of wool felt hats fell from $11.44 in 1929 to $10.08 in 1935 and to $9.66 in 1937.[31] The production of straw and fur felt hats declined during the depression, but had risen nearly to its earlier level by 1937. The output of wool felt hats increased steadily, rising from 900,000 dozens in 1929 to 2,800,000 dozens in 1937.[32]

WOMEN'S, MISSES', AND CHILDREN'S APPAREL

The lowest degree of concentration revealed in any of the 275 industrial categories employed by the Census of Manufactures occurs among

[25] National Resources Committee, op. cit., pp. 250–251.
[26] Thorp and Crowder, loc. cit.
[27] National Resources Committee, op. cit., p. 191; Nelson and Keim, op. cit., pp. 175–176.
[28] Foulke, They Said it With Inventories, pp. 44, 46.
[29] Census of Manufactures, 1937.
[30] National Resources Committee, op. cit., pp. 256–257.
[31] Economic Section, Report on the Hat Industry (mimeo., 1939), p. 43.
[32] Census of Manufactures, 1929, 1937.

the producers of women's and misses' dresses, coats, suits, and skirts, house dresses, uniforms, and aprons, blouses, underwear, and nightwear, and children's and infants' outerwear, all of which are included within the group designated as "women's, misses', and children's apparel not elsewhere classified." The four largest firms in this industry accounted for only 1.4 percent and the eight largest for only 2.4 percent of the value of its total output in 1935.[33] Its 6,337 establishments employed 243,000 workers and produced goods valued at more than $1,100,000,000 in 1937. The production of dresses other than house dresses, with 2,422 establishments, 124,000 workers, and an output worth $559,000,000, and the production of coats, suits, and skirts, with 1,767 establishments, 40,000 workers, and an output worth $321,000,000, ranked first and second among the branches of the trade.[34] In these fields, too, the degree of concentration is unusually low. Among 545 firms making one-piece dresses to retail for $2 and over, 220 making one-piece dresses to retail for less than $2, and 119 making ensembles, the four largest accounted in 1937 for 3.1, 16.8, and 18.9 percent, respectively, of the total output. Among 885 making coats, 358 making suits, and 129 making skirts, the four largest accounted, respectively, for 7.6, 14.0, and 19.0 percent.[35]

The production of dresses other than house dresses is carried on by manufacturers who buy materials, cut them according to patterns, and either carry on all of the remaining operations in their own shops or let some of them out to contractors, by jobbers who make samples, cut materials, and let all of the remaining operations out to contractors, and by contractors who work for manufacturers or jobbers. The establishments in each of these groups are numerous; in 1937 those operated by manufacturers and jobbers numbered 1,147, those operated by contractors 1,275. The typical unit is small; in 1937 the average manufacturing or jobbing enterprise hired only 31 employees, the average contract shop only 30. There is no barrier to entrance to the field. The processes involved are simple, having changed little since the industry began; a small establishment can produce as cheaply as a larger one. An abundant supply of skilled labor is readily at hand. The talents required in management are such as appear rather frequently among men. There are many, experienced in the trade, who are willing to face the risks which it involves. The investment required for entry is small; that usually made by a manufacturer or jobber is between $25,000 and $50,000; that made by a contractor is between $1,000 and $5,000. Credit is readily available; the manufacturer or jobber can obtain loans from producers of materials, from commercial banks, and from finance companies, in amounts which may exceed the total of his long-term investment. The contractor works with fabrics which are provided by the manufacturer or jobber, meets his wages and overhead costs from the payments which they make, and operates in a small space with inexpensive equipment which he rents or buys, new or second-hand, on the installment plan.

The industry, in each of its stages, is actively competitive. Contractors bid against one another in offering their services to manufacturers and jobbers. Manufacturers and jobbers bid against one

[33] National Resources Committee, op. cit., pp. 250–251.
[34] Census of Manufactures, 1937.
[35] Thorp and Crowder, loc. cit.

another in offering their products to distributors. Competition in the latter field is intensified by the character of the product and the organization of the market. Style is of paramount importance. Each manufacturing or jobbing house has its designer who is constantly engaged in turning out new models. Styles change with great rapidity; designs are numerous; the popularity of any one of them is unpredictable. Demand is seasonal, is affected by the vagaries of weather, and is subject to fortuitous changes in taste. The business is highly speculative; the success or failure of a house depends upon factors which it cannot control; success in one season may be followed by failure in the next. The organization of the market, too, places the producer at a disadvantage in bargaining for the sale of his goods. The trade is concentrated geographically; most of its establishments are located within an area of 10 blocks in central Manhattan. Here, in their own showrooms and in resident buying offices, manufacturers and jobbers sell their output to buyers for department stores, mail order houses, chain stores, and independent specialty shops, to manufacturers' representatives who receive a commission on purchases made for small retailers, and to resident buyers representing many independent stores. Here each seller makes many small sales and each buyer many small purchases. But the number of sellers is large and the total sold by each of them is small, the number of buyers relatively small and the total bought by each of them large. Lines are compared and orders are given by specialists who are on the spot. As a result, each seller is forced to compete with every other one in offering better quality, superior service, and a lower price.

Detailed information on the industry's profits and losses is not available, but it is known that the average return on invested capital is low, that the rate of business mortality is high, and that the life expectancy of the individual enterprise is short. It is estimated that the annual mortality of dress firms in Manhattan stood at 22.2 percent in the period from 1927 to 1935 and at 44.9 percent in the year from the spring of 1932 to the spring of 1933.[36] The usual business life of a manufacturing establishment is said to be less than 5 years. The dress man, says Malin, "does not always wait for major or minor disaster to overtake him. Credit is so important to him that often, at the first hint of danger, he will change the firm name or address, his partners, or his price line. Reorganization sometimes derives solely from temperamental incompatability of associates. But the supreme cause of disaster or reorganization is competition." [37]

The millinery trade employs some 25,000 workers and has an annual output valued at nearly $100,000,000. In 1938, millinery was produced on a factory basis by 836 firms no one of which did as much as 2 percent of the total business. The typical firm has two or three members who not only manage the enterprise and buy materials, but also act as designers, salesmen, and artisans. It has about 30 employees. Among 598 concerns in 1937, the sales of 36 percent were under $50,000 each, those of 60 percent under $100,000, and those of 92 percent

[36] Lazare Teper, An Economic Analysis of the Women's Garment Industry (New York, 1937), p. 20.
[37] Patrick Murphy Malin, Competition Under Union Control (unpublished manuscript), ch. 2.

under $300,000.[38] Access to the field is unobstructed. The processes of manufacture are simple; important materials such as hat bodies and decorations are purchased in a semimanufactured state. Manufacturing operations are performed by hand and with light machinery, such as sewing machines and block and die presses. Many establishments have been set up with a few hundred dollars; a plant with an annual volume of $100,000 can be financed with as little as $10,000.[39] Like dresses, millinery is highly styled and sales are seasonal. Like the dress man, the milliner sells in a buyers' market to purchasers who are much larger and more powerful than he. His chief customers are a handful of millinery chains, a few score resident buyers, and about 30 syndicates. The syndicates, leasing and operating more than a thousand millinary departments in strings of specialty shops and in more than half of the important department stores in the country, control two-fifths of the market.[40] Competition among sellers keeps profits down. Among 458 firms in 1937, there was an average net profit before members' withdrawals of 4.9 percent of sales, an average book loss after withdrawals of 0.74 percent.[41] It is estimated that a fifth of the establishments in the industry are eliminated every year. Among 574 firms reporting to the Women's Bureau of the Department of Labor, two-thirds had been in business less than 9 years, nearly one-third less than 4 years.[42]

The fur goods industry, with an output valued at more than $155,000,000 in 1937, is similarly competitive. Establishments are numerous. There were 1,642 reported by the census in that year. Most of them are small. Half of those included in a sample taken in 1934 had fewer than 5 employees, three-fourths had fewer than 9, 99 percent had fewer than 50; the annual sales of half of them were under $10,000, those of three-fourths under $30,000, and those of 95 percent under $100,000.[43] The degree of concentration is low. The 4 largest producers accounted for only 2.6 percent, the 8 largest for only 4.5 percent of the value of the total output in 1935.[44] Entrance is unrestricted. "A fur coat factory," says Fortune, "is a man with a needle and thread. Even by New York standards—where the craft has reached its highest development—it requires less than $200 in capital to equip a fur-manufacturing shop. A keg of nails, a table and chair, two sewing machines, and you are equipped to make as good a coat as any man in the country."[45] Profits are low. Among concerns numbering from 36 to 130 in each of the years from 1931 through 1938, the average annual profit was 2.16 percent of tangible net worth, ranging from a loss of 10.50 percent in 1932 to a gain of 9.95 percent in 1936.[46] The turnover of business units is rapid. "Every January," according to Fortune, "about 300 new manufacturing firms are founded and as many dissolved."[47]

[38] U. S. Department of Labor, Women's Bureau, Conditions in the Millinery Industry, Bulletin No. 169 (1939), p. 19.
[39] Ibid., p. 24.
[40] Ibid., p. 29; Cf. Federal Trade Commission, Distribution Methods in the Millinery Industry (processed, 1939).
[41] Department of Labor, op. cit., ch. 7.
[42] Ibid., p. 22.
[43] N. R. A. Research and Planning Division, Special Fur Commission, Report and Recommendation on Wages and Hours in Fur Manufacturing (mimeo., 1935).
[44] National Resources Committee, op. cit., pp. 258–259.
[45] Fortune, January 1936, p. 120.
[46] Foulke, Behind the Scenes of Business (1935), p. 115, and Relativity of the Moral Hazard (1940), p. 46.
[47] Fortune, loc. cit.

The conditions obtaining in these fields are duplicated in other apparel trades. In the production of women's and misses' coats, suits, and skirts, and children's and infants' outerwear, the factor of style is important and the bargaining power of buyers is great. In these trades and in the production of underwear and nightwear, blouses and shirtwaists, scarfs and neckwear, handkerchieves, embroideries, artificial flowers, umbrellas, men's furnishings, gloves and mittens, garters, suspenders and arm-bands, hand-bags, pocket books, and card cases, belts and other small leather goods, it may be said, in general, that the large number of enterprises, the small size of each of them, the low degree of concentration, the ease of entry, and the importance of contracting make for active competition, low profits, and a rapid turnover of firms. In the production of house dresses, uniforms, and aprons, and corsets, brassieres, and allied garments, the number of enterprises is relatively smaller, the individual establishment somewhat larger, the degree of concentration slightly higher, and contracting less important. But here, too, it appears that markets are effectively competitive.

BOOTS AND SHOES

The shoe industry, employing 215,000 workers, turned out 425,000,000 pairs of shoes, boots, sandals, slippers, moccasins, and other footwear made from materials other than rubber, valued at more than $768,000,000 in 1937.[48] There were 1,080 establishments engaged in the production of finished footwear and another 470 in the production of cut stock and findings, including soles, inner soles, heels, and other parts. A third of the shoe factories had fewer than 20 employees, 45 percent of them fewer than 100, and 70 percent fewer than 250. The output of 1 factory in 4 was valued at less than $100,000, that of 3 in 4 at less than $1,000,000. Among cut stock and findings plants, 4 in every 5 had fewer than 50 employees and an output valued at less than $250,000.[49] Production, however, is more highly concentrated than in the other clothing trades and a few of the firms in the industry are very large. Fourteen companies produced a third and 3 produced a fourth of the domestic output in 1935.[50] The International Shoe Co., with $83,000,000 in assets and 30,000 employees in that year, was listed among the 250 largest corporations in the United States [51] and is said to possess sufficient capacity to provide half of the country's population with a yearly pair of shoes.[52] The larger plants are engaged principally in the production of shoes of serviceable quality and conservative design, the smaller ones in the production of shoes which are highly styled. The degree of concentration varies with the character of the product. The four leading producers, in each case, accounted in 1937 for around two-fifths of the output of each of the major types of shoes for men and boys and for little more than one-fifth of the output of the major types of shoes for women and girls.[53]

[48] Census of Manufactures, 1937.
[49] Economic Section, Wage and Hour Division, Report on the Shoe Manufacturing and Allied Industries, Part I (mimeo., 1939), pp. 20–25.
[50] Federal Trade Commission, Agricultural Income Inquiry, Part I, 1937, pp. 214–215.
[51] National Resources Committee, op. cit., p. 100.
[52] H. B. Davis, "Business Mortality, The Shoe Manufacturing Industry," Harvard Business Review, vol. 17 (1939), pp. 331–338, at p. 334.
[53] Thorp and Crowder, loc. cit.

Although the production of shoes necessitates the employment of expensive machinery, admission to the industry is not obstructed by heavy capital requirements. This situation is a product of the policy of the United Shoe Machinery Corporation, which controls the bulk of the supply of such machines. This concern, instead of selling its machinery, usually leases it to shoe manufacturers, collecting installation fees, royalties amounting to about 5 cents on each pair of shoes, and minimum monthly rentals when machines are not in use. It also provides repairs, replacements, advice on plant administration, and other services. As a consequence of this system, the initial capital required for entrance to the field or for the expansion of existing firms is small. This factor, together with the prevalence of contracting and the importance (in the case of women's shoes) of the element of style, operates to the advantage of the small concern.

The prices of shoes are relatively inflexible, being set in customary grooves, such as $2.95 to $2.98 and $3.95 to $3.98, which retailers and consumers apparently accept as permanent. Manufacturers accordingly place their emphasis on competition in quality and style. Production is fairly stable, falling off less than 20 percent in the depression of the thirties. The industry's profits, in general, are low. The largest company has shown high earning power, averaging 16.98 percent on its investment in the business from 1929 through 1935. But the next 12 companies averaged only 5.39 percent in the same period [54] and the industry as a whole made an average annual net profit of only 0.66 percent on its net worth in the period from 1931 through 1938, ranging from a loss of 10.51 percent in 1931 to a gain of 8.06 percent in 1936.[55] The rate of business mortality is high. According to Davis: "In the decade 1925–35 more than one firm out of six ceased business in each year. The average life of all firms that did business in the period 1905 through 1935 was only about 6 years. Approximately one-half of the shoe firms that started business in any year had gone out of business by the end of the third year thereafter." [56]

LEATHER

The leather industry, with 402 establishments and 50,000 employees, produced an output valued at $395,000,000 in 1937. More than 98 percent of this output came from 331 establishments which manufactured leather from purchased skins and hides, less than 2 percent of it from 71 which operated on a contract basis.[57] Most of the units in the former group were of moderate size; half of them had fewer than 100 employees and four-fifths had fewer than 250. The output of half of the establishments in the industry was valued at less than $500,000 and that of two-thirds at less than $1,000,000.[58] A consolidation movement, beginning late in the nineteenth century, had cut the number of tanneries in the United States from more than 7,500 in the seventies to less than 750 before the outbreak of the

[54] Federal Trade Commission, op. cit., Part III, p. 21.
[55] Foulke, Behind the Scenes of Business, p. 118, and Relativity of the Moral Hazard, p. 60.
[56] Davis, op. cit., p. 332.
[57] Census of Manufactures, 1937.
[58] Research and Statistics Branch, Wage and Hour Division, Report on the Leather Industry (mimeo., 1940), pp. 28, 31.

First World War. The United States Leather Co., a combination in 1893 of 60 concerns operating 110 tanneries, controlled more than 60 percent of the domestic output by 1904.[59] While establishments have since continued to decrease in number and increase in size, the degree of concentration has declined, the three largest producers accounting for only 9.9 percent and the eight largest for only 15.2 percent of the physical output,[60] the four largest for 22.5 percent, and the eight largest for 32.3 percent of the value of the output in 1935.[61] Admission to the industry is restricted by substantial capital requirements. Although the processes of production are relatively simple, they necessitate the acquisition of specialized plants and fixed equipment and the investment of considerable sums in skins and hides which must be carried for several months at a time. A constant fluctuation in the prices of these materials, which is unrelated to the demand for leather, introduces a highly speculative element into the field.

The demand for the industry's products has declined abruptly in recent years. The use of automobiles has cut into the harness trade and lessened the amount of shoe leather worn out by walking. The shift to closed cars has led to the substitution of fabric for leather in upholstery. The virtual disappearance of high shoes and the introduction of rubber and composition soles and fabric tops have reduced the quantity of leather employed in making shoes. The advent of individual motors and gear drives for running machines in factories has cut the sale of industrial belting. The development of foreign production has impaired the export trade. The output of harness leather fell off 60 percent, that of sole leather 25 percent, and that of belting leather 12 percent from 1914 to 1926.[62] Productive capacity, expanded beyond peacetime requirements by the First World War, was only 70 percent in use in 1928, 54 percent in 1932, and 68 percent in 1933.[63]

Concerns engaged exclusively in the production of leather, competing among themselves, must also face the competition of plants controlled by the packing companies from whom they buy their raw materials and the shoe companies to whom they sell their finished products. The large packers, possessing the bulk of the supply of skins and hides, enjoy a strategic advantage in the trade. Swift & Co. and Armour & Co. are both in the leather business. The J. K. Mosser Leather Corporation, which is controlled by the latter concern, is the largest producer in the field. The three leading shoe companies, in addition to buying leather, operate tanneries for the production of part of their supply. The Endicott-Johnson Corporation is second in the field. United States Leather, which once dominated the industry, now stands third.[64]

With production speculative, demand declining, and capacity in excess of requirements, with its producers of materials and its customers entering into competition, the industry has been characterized by flexible prices and low profits. The price of glazed kid leather changed

[59] Federal Trade Commission, op. cit., Part I, p. 217.
[60] Ibid., p. 214.
[61] National Resources Committee, op. cit., pp. 250–251.
[62] Harvard Business Review, vol. 8, p. 478.
[63] N. R. A. Division of Review, Evidence Study No. 21. The Leather Industry (mimeo.), p. 12.
[64] Federal Trade Commission, op. cit., pp. 216–220.

20 times, that of harness leather 30 times, that of side chrome leather 49 times, and that of sole leather 65 times from month to month in 1926–33, falling 48.2, 36.5, 46.3, and 54.7 percent, respectively, from June 1929 to February 1933.[65] Eleven of the leading tanning companies suffered an average annual deficit of 2.02 percent on their investment in the business from 1929 through 1935.[66] Seven companies lost money in 8 of the 16 years from 1923 through 1938, with an average annual deficit of 6.8 percent on invested capital, and made money in the other 8 years, with an average annual profit of 3.9 percent.[67]

In the several industries which are engaged in the manufacture of various leather products, establishments are numerous and small, concentration is negligible, prices are relatively flexible, and profits are low. The production of leather and leather goods thus appears to be effectively competitive.

TIRES AND TUBES

The rubber tire industry has been at once highly concentrated and vigorously competitive. Four firms, the Goodyear Tire & Rubber Co., the Firestone Tire & Rubber Co., the United States Rubber Co., and the B. F. Goodrich Co., manufactured nearly 80 percent of the tires produced in 1937. Goodyear, Firestone, Goodrich, and the General Tire & Rubber Co., fifth in size, are all located in the same city, a circumstance which might be expected to facilitate noncompetitive arrangements. Furthermore, since the demand for tires is almost wholly a function of new car sales and car mileage, competition might well be restrained by the knowledge that lower prices are unlikely to increase the total volume of sales. But competition has nonetheless occurred. The prices of tires fell almost without interruption from 1920 to 1932. Taking 1926 as 100, the wholesale price stood at 230 in 1920, at 115 in 1922, at 55 in 1929, and at 40 in 1932.[68] The quality of the product improved as steadily. In 1910 the average life of a fabric clincher tire was about 9 months; by 1925 the life of a high-pressure cord tire was about 18 months; in 1937 the life of a low-pressure, balloon type tire was nearly 3 years. The cost per mile of tires and tubes employed in the operation of 10 large fleets of passenger cars was 64 percent lower in 1938 than it had been in 1926.[69]

Increased tire life and better roads have cut the number of tires sold per car and, since 1928, have narrowed the total market. Although motor vehicle registrations were 12 percent higher and new car sales only 10 percent lower in 1937 than in 1929, tire production was down 22 percent. At the same time, productive capacity was increased. It is estimated that the industry was equipped to produce between 82,000,000 and 98,000,000 tires in 1934; 2 large plants were built subsequent to that time, but only 54,000,000 tires were manufactured in a year as prosperous as 1937. Fixed charges on idle capacity provoked a struggle for volume. Falling prices and advancing technology set a pace that many manufacturers could not maintain. There were 52 insolvencies reported in the industry between 1927 and 1934. Others who found the going too hard entered into mergers or were absorbed by the larger

[65] Nelson and Keim, op. cit., p. 175.
[66] Federal Trade Commission, op. cit., p. 875.
[67] Standard Statistics, Leather and Shoes, Basic Survey, Part I, June 30, 1939.
[68] Nelson and Keim, op. cit., pp. 64–65.
[69] Automobile Manufacturers Association, Automobile Facts and Figures (21st edition, 1939), p. 49.

and more successful firms. Of more than 500 companies that had manufactured tires at one time or another, only 26 remained in 1937.[70]

The competitive character of the industry may be attributed partly to the policy of Harvey S. Firestone, who directed the affairs of the second-largest tire concern, partly to the power of the large-scale buyers of tires. Mr. Firestone, a close friend of Henry Ford, shared Mr. Ford's philosophy of increasing volume by reducing price. He was able to make tires more cheaply than most of his competitors and, a stanch individualist, he insisted on selling them in his own way. The large-scale buyers have played an even more important role. The automobile industry purchases about one fourth of all new tires. Automobile manufacturers, trading on the knowledge that their business is extremely attractive to tire makers, sometimes threatening to manufacture tires themselves, have played off one seller against another and precipitated bitter rivalry for their long-term original equipment contracts. A few mass distributors, such as the large mail order houses, oil companies, and auto supply chains, have occupied a similar position in the market for replacement tires. In 1926, some 120,000 independent retailers did about 90 percent of the renewal business; 10 years later there were only 60,000 independents left and they did less than 60 percent of the business. Sears, Roebuck & Co., Montgomery Ward & Co., the Standard Oil companies and other oil concerns, contracting for the manufacture of private brands, were making a quarter of all renewal sales.[71] The Western Auto Supply Co. of Kansas City, largest of the auto supply chains, operating 200 stores of its own and serving 1,200 others, sold a million tires under its own brand names in 1938.[72]

For many years manufacturers competed actively for private brand contracts, selling at prices well below those charged to independent retailers. Goodyear made "All State" tires for Sears at prices 29 to 40 percent below those charged for its comparable "All Weather" brand. Sears then undersold Goodyear dealers by 20 to 25 percent, visibly cutting into their volume.[73] Thereupon, says Abrahamson [74]—

> Goodyear dealers prevailed upon the company to put out a second-line tire, the Pathfinder, to meet the Sears Roebuck price. In turn the mail order house retaliated with a second-line tire also manufactured by Goodyear and marketed at a differential under the Pathfinder price. Eventually third-line tires appeared to be used in the war between the two types of outlets.

In effect, Goodyear was competing with itself. At the same time, United States Rubber was making "Riverside" tires for Montgomery Ward and United States Rubber and Goodrich were making "Atlas" tires for Standard Oil. Distressed independents cried for prices which would enable them to meet the competition of the private brands. From 1926 to 1934 reductions in manufacturers' list prices averaged two a year and the list prices themselves soon became fictitious as discounts were piled upon discounts in an effort to keep the independents alive. Firestone, with no mass distributor alliances, declared price warfare and entered the retail field, setting up a chain of more than

[70] Albert Abrahamson, "The Automobile Tire—Forms of Marketing in Combat," in Walton Hamilton and Associates, Price and Price Policies (New York, 1938), pp. 91 ff.; Lloyd G. Reynolds, "Competition in the Rubber Tire Industry," American Economic Review, vol. 28 (1938), pp. 459–468.

[71] Fortune, November 1936, p. 142; Reynolds, op cit., p. 461.

[72] Fortune, October 1939, p. 79.

[73] Federal Trade Commission, Order, Docket No. 2116 (1936).

[74] Abrahamson, op. cit., p. 106.

500 company-owned stores. Goodyear, Goodrich, and others followed suit, thus entering directly into competition with the distributors to whom they sold. Each type of outlet competed with all of the others in offering lower prices, higher trade-in allowances, free tubes with tires, and larger guarantees. According to Reynolds, however, "It is not too much to say that the initiative in tire pricing since 1926 has lain with Sears and Firestone and that they are largely responsible for the great decline." [75]

Events since 1935 suggest that the stringency of competition among the manufacturers of tires has been somewhat modified. The Federal Trade Commission in an order handed down in March 1936 held that the Goodyear-Sears contract was in violation of the price discrimination section of the Clayton Act.[76] This order was appealed to a circuit court, but when the Robinson-Patman Act was passed in June of that year the contract was voluntarily canceled. Fortune, calling attention in November to "the quietude that has fallen over the price cutting and the dealer swiping and the quarreling over mass outlets," continued: [77]

> For 6 months before that [November 1935] some of the most killing warfare of the entire fight had been waged. What happened now was that the generals who had decreed the blood strategies wearily came together in some Hall of Mirrors and decided that the goose was better alive than dead even though her eggs were getting smaller. There had been get-togethers before; the chief difference between this one and its predecessors was that this one worked. For a full year now the merchandising of tires has been both quieter and more profitable than it has been in years.

The composite wholesale price of tires and tubes rose 11 percent in 1936 and continued to rise steadily to October 1939 when it was 34 percent above the figure reported at the beginning of 1936.[78] A suit for triple damages under the Sherman Act was filed by the United States in 1939 against Goodyear, Firestone, U. S. Rubber, Goodrich, and several other companies, alleging participation in a bidding ring in connection with public tire contracts. The Government contended that the defendants had submitted bids in four bid openings from 1936 to 1938 and that on all four occasions their bids were identical to the penny on more than 80 different types and sizes of tires.[79] The complaint was dismissed, however, on the ground that the Government could not sue for triple damages since it was not a "person" within the meaning of section 7 of the Sherman Act.[80]

The tire industry as a whole ranks low in the scale of industrial profitability. The number of companies reporting no net incomes to the Bureau of Internal Revenue exceeded the number reporting net incomes in every year from 1926 to 1935. The larger concerns, however, have made money. Goodyear and Firestone showed a profit in each of the 11 years from 1928 through 1938, U. S. Rubber in 5, Goodrich in 7, and General in 9. Goodyear made an average annual net profit of 5.99 percent on tangible net worth in 1934–38, Firestone made 7.02 percent, U. S. Rubber 7.22 percent, Goodrich 4.13 percent,

[75] Reynolds, op. cit., p. 462.
[76] Federal Trade Commission, loc. cit.
[77] Fortune, November 1936, p. 145.
[78] Bureau of Labor Statistics, Wholesale Prices (monthly).
[79] New York Times, February 20, 1939.
[80] Ibid., February 6, 1940. This case is to be reviewed under an order issued by the Supreme Court on November 12, 1940.

and General 5.79 percent.[81] It should be noted, however, that the earnings of these companies do not represent the results of tire manufacturing alone, since a third of the business of Goodyear and Firestone and nearly half of that of U. S. Rubber and Goodrich is in products other than tires and tubes.

HOUSEHOLD APPLIANCES

The production of mechanical refrigerators, like that of tires and tubes, has been characterized by increasing concentration and continued competition, both in quality and price. The number of producers of all types of electric refrigerators is said to have declined from 250 in 1932 to 75 in 1933.[82] Domestic models with a capacity under 6 cubic feet were made by only 21 firms in 1937, those with a capacity between 6 and 10 feet by only 25 firms, and those with a capacity over 10 feet by only 14. The four leading producers in each case accounted for 69.2, 76.8, and 76.9 percent, respectively, of the value of the output of the smaller, medium, and larger sizes.[83] Although the degree of concentration has increased, quality has risen, prices have declined, and sales have grown. The product has been improved in appearance, capacity, convenience, durability, power, and economy of operation. The average life of an electric refrigerator was 6 years in 1920, 11 years in 1926, 13 years in 1930, and 15 years in 1939. Refrigeration units are now commonly guaranteed for 5 years. The current consumed by the typical 6-foot box fell off 21 percent from 1931 to 1938.[84] The average wholesale price of electric refrigerators fell nearly 58 percent from January 1929 to March 1937. The average retail price fell 41 percent between the same 2 years. The typical unit sold for $600 in 1920, $292 in 1929, and $169 in 1939. Sales increased threefold from 1929 to 1937, rising from 778,000 units in the former year to 2,310,000 in the latter. It is estimated that there were nearly 14,000,000 electric refrigerators in domestic use in 1939.[85]

Here, as in the case of tires and tubes, it appears that the mass distributor has played a leading role. In 1930, when the major producers were maintaining prices at the level of 1928 and 1929, Sears Roebuck entered the field with "Coldspot" and soon thereafter it was selling this machine for $40 less than comparable models of other makes. This competition led to general price reductions in the fall of 1931. Sears took the lead again in 1934 when it offered a 6-foot box at the price formerly charged for the 4-foot size and other sellers followed suit. It is estimated that General Electric accounted for 20.3 percent, Frigidaire 17.7 percent, Sears 14.8 percent, Westinghouse 10.1 percent, Kelvinator 7.2 percent, Norge 5.6 percent, and Montgomery Ward 5.5 percent of the refrigerators sold in 1939.[86] For some time during the thirties the prices of comparable models of nearly all makes except "Coldspot" were maintained at figures

[81] Work Projects Administration, Securities and Exchange Commission, Survey of American Listed Corporations (1939), vol. 1, pp. 269–271.
[82] Electric Refrigerator News, May 1933, cited in Nelson and Keim, op. cit., p. 134.
[83] Thorp and Crowder, loc. cit.
[84] Nelson and Keim, op. cit., pp. 64, 69, 149.
[85] Federal Trade Commission, Agricultural Implement and Machinery Industry, 75th Cong., 3d sess., House Doc. No. 702 (1938), p. 932; Nelson and Keim, op. cit., p. 112; Fortune, May 1940, pp. 75, 111.
[86] Fortune, op. cit., p. 104.

which were identical almost to the penny. Early in 1940, however, Kelvinator provoked new price competition when it slashed prices on all of its models to meet those charged by Sears. Other sellers followed Kelvinator's lead and prices were established at new lows; but Sears still undercut the field, charging as little as $83 for its cheapest 6-foot box. Offering a better product for less money than at any time in its history, the industry is still effectively competitive.

In the cases of certain other household appliances a somewhat similar situation obtains. In 1937 the largest 4 among 82 companies produced 36.1 percent by value of the output of porcelain-enameled, gas-burning kitchen stoves with ovens; 4 among 32 produced 53 percent of the standard-size electric washing machines; and 4 among 29 produced 69.6 percent of the floor vacuum cleaners.[87] In each of these fields there have been constant improvements in quality and marked reductions in price. In each of them the large mail order houses have entered into active competition with other types of distributors.

Among some 50 companies engaged in the production of radio receiving sets in 1937, the four largest in each case accounted for from half to two-thirds of the output of most of the cheaper models and from three-fourths to nine-tenths of the output of the more expensive ones.[88] Here, again, quality has risen and prices have declined. In 1923 a 3-tube set cost $100; 15 years later a better one could be purchased for $9.95. In 1929 the average retail price stood at $133; in 1938 at $45.[89] Manufacturers have vied with one another and with the mail order houses in cutting prices and offering cheaper models. The turn-over of producing units has been high. Despite its concentration, the industry is actively competitive.[90]

FOOD PRODUCTS

Competitive conditions affecting the sale of processed foods vary markedly from product to product. There is a high degree of concentration, for instance, among the producers of meats, shortenings, vegetable oils, oleomargarine, granulated sugar, chocolate and cocoa, corn products, baking powder, yeast, canned soups, cereal preparations, biscuits and crackers, and certain types of cheese; a low degree of concentration among the producers of butter, flour, macaroni, spaghetti, vermicelli, and noodles, corn meal, canned and preserved fish, poultry, fresh sausage, and animal feeds. The wholesale prices of bread, biscuits and crackers, cereal preparations, cocoa, baking powder, soda, salt, and canned soups are comparatively rigid; those of butter, oleomargarine, lard, flour, macaroni, corn meal, coffee, canned and preserved fish, meats, and poultry are relatively flexible. Many of these goods are sold under brand names, the producer in each instance obtaining a complete monopoly in the sale of products

[87] Thorp and Crowder, loc. cit.
[88] Ibid.
[89] Fortune, May 1938, p. 118.
[90] Competition has also made its appearance in another highly concentrated field. The bulk of the phonograph records manufactured in the United States are made by three concerns. For many years the prices of records were rigidly maintained, most popular discs selling at 75 cents and most classical recordings at $1.50 and $2. In 1936, Decca Records, Inc., entered the field, cutting the price of popular records to 35 cents and the R. C. A. Victor Co. and the Columbia Recording Corporation shortly followed its lead. But Decca made few classical recordings and the prices of such records were still maintained. In 1938 and 1939, however, a number of newspapers employing low-priced symphonic albums in promoting circulation met with such success as to demonstrate the existence of a large potential market in this field. On August 6, 1940, Columbia cut its whole classical list to 75 cents and $1. On August 15, 1940, Victor followed suit. Prices were again uniform, but classical recordings could be obtained at half the former price.

which bear his brand. But most foods are sold under many different brands and substitution is easy. Some of these brands are owned by mass distributors, such as the chain stores, who promote their sale in competition with those owned by manufacturers. Almost every one of these commodities, moreover, must compete with dietary substitutes—meat with fish and poultry, oleomargarine with butter, and foods prepared in factories with those prepared at home. Despite the concentration and rigidity which characterize certain products, and despite the collusive practices which are encountered in the sale of many processed foods, the field appears to be predominantly competitive.

The canning and preserving of fruits and vegetables is one of the most important among the industries engaged in the processing of foodstuffs. Its 2,772 establishments, employing some 344,000 workers at the height of the season, produced an output valued at $789,000,000 in 1937.[91] For some of the industry's products the degree of concentration is low; for others it is comparatively high. The 3 leading firms in each case accounted for about a twentieth of the grape juice, a fifteenth of the canned tomatoes, a tenth of the canned string beans, a sixth of the canned cherries, corn, and peas, a fourth of the canned beets, apricots, applesauce, and grapefruit juice, a third of the canned apples, peaches, pears, prunes, grapefruit, spinach, and kraut, two-fifths of the tomato juice, baked beans, raisins, and dried prunes, half of the canned grapes, and nearly two-thirds of the canned plums and asparagus produced in 1935. The 1 leading firm in each case accounted for less than a fourth of the output of 20 of these products, for about a fourth of the raisins, a third of the canned grapes, and two-fifths of the plums and asparagus. The California Packing Corporation was the largest producer of 9 varieties and the second largest producer of 6. Libby, McNeill & Libby was the largest producer of 2 and the second largest producer of 10. Some other company stood first in the production of each of the remaining 13.[92] Although there is some concentration in the industry, the prices of its products are generally flexible, changing frequently and declining sharply in depression while the volume of production is maintained. Among 19 such products, the wholesale prices of 15 changed more than 25 times, those of 10 more than 50 times, and those of 5 more than 80 times from month to month in 1926–33; the prices of 10 dropped 29 to 49 percent and those of 5 dropped 50 to 61 percent from June 1929 to February 1933.[93] However, in view of the extent to which raw material prices fluctuate the flexibility of the prices of processed foods may conceal a high degree of rigidity in processors' margins and may not afford an adequate criterion of their competitive character. The record of earnings in the trade reveals that a few large firms have made much higher profits than the many smaller ones. Among 102 fruit and vegetable processing companies reporting to the Federal Trade Commission, the 9 largest, including Calpack and Libby, realized an average annual return of 9.48 percent, the 93 smaller ones a return of only 3.87 percent, on their investment in the business in the 7 years from 1929 through 1935.[94]

[91] Census of Manufactures, 1937.
[92] Federal Trade Commission, Agricultural Income Inquiry, Part II (1937), pp. 131, 133–134, 138.
[93] Nelson and Keim, op. cit., pp. 191–193.
[94] Federal Trade Commission, op. cit., p. 783.

OTHER MANUFACTURED GOODS

There are several other manufacturing industries in which the presence of numerous producers, the small size of the typical establishment, the moderate degree of concentration, the relative flexibility of prices, or the low level of earnings, or some combination of these factors, suggests that competitive conditions may obtain. Among them are the printing business, the production of cigars, candy, soft drinks, wines, and beer, of jewelry, buttons, toys, games, and playground equipment, of wooden household furniture and other wooden articles, of brooms, baskets, awnings, mattresses, and other housefurnishing goods, and the manufacture of certain types of pottery and porcelain ware, hardware and other metal products, paints, varnishes, and lacquers, paper products, and rubber goods.

The production of drugs, medicines, soaps, cosmetics, and toilet preparations is characterized in general by substantial concentration, rigid prices, and high profits. The four leading producers in each case accounted for more than three-fourths by value of the output of 21 among 41 drugs and medicines in 1937,[95] for nearly three-fourths of the total output of soap, and for more than one-fourth of the total output of perfumes, cosmetics, and toilet preparations in 1935,[96] the degree of concentration in the latter case undoubtedly being higher where individual products were concerned. Aside from those drugs and medicines which are sold to or prescribed by physicians, such goods are usually branded and nationally advertised and their resale prices are maintained. The rate of return in this field has long been higher than that usually obtained under active competition; 14 of the larger producers of drugs and medicines made an average net profit on tangible net worth of 28.53 percent in 1937 and 25.77 percent in 1938; 9 manufacturers of soaps and toilet preparations made 9.83 percent in 1937 and 16.29 percent in 1938.[97] But if these trades present any barrier to the admission of new firms, it is to be found less in the cost of the equipment or the complexity of the processes employed in the manufacture of their products than in the size of the expenditures that are made in advertising the labels which they bear. The situation in this field is to be attributed primarily to the fact that the consumer lacks knowledge concerning the qualities of such products, is unable to make comparisons, and is reluctant to substitute one brand for another in response to differences in price. If it were not for this fact, the field might be effectively competitive.

WHOLESALE AND RETAIL DISTRIBUTION

Large numbers of enterprises make for active competition in the wholesale and retail trades. There were 1,831,000 establishments engaged in distribution, 177,000 of them in wholesaling and 1,654,000 in retailing, in 1935.[98] In many cases more than one of these establishments was operated by the same concern, but it is estimated that there were 1,437,789 separate enterprises in these trades in 1934, among

[95] Thorp and Crowder, loc. cit.
[96] National Resources Committee, op. cit., p. 266.
[97] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 3, p. 264.
[98] Census of Business, 1935.

them 95,416 wholesale and 1,342,373 retail firms.[99] Numbers are also large within the several subdivisions of the field. Among wholesale establishments in 1935, there were 45,900 in foods, 28,200 in petroleum products, 19,500 in raw materials produced on farms, 13,500 in machinery, equipment, and supplies, 7,100 in automotive products, 6,000 in beer, wines, and liquors, 5,700 in clothing and furnishings, 4,900 in dry goods, 4,100 in lumber and building materials, 3,800 in electrical goods, 3,200 in paper products, 2,700 in plumbing and heating equipment and supplies, 2,600 in chemicals and paints, 2,500 in tobacco products, 2,300 in farm supplies, 2,200 in jewelry and optical goods, 2,000 in drugs and drug sundries, 1,700 in amusement and sporting goods, 1,500 in hardware, and 1,200 in coal and coke.[1] Among retail establishments there were 477,000 food stores, 198,000 filling stations, 77,000 clothing stores, 67,000 country general stores, 57,000 drug stores, 55,000 candy stores, 45,000 furniture and household appliance stores, 37,000 hardware stores, 36,000 lumber yards and builders' supply stores, 35,000 automobile agencies, 35,000 fuel and ice outlets, 29,000 general merchandise and dry goods stores, 20,000 farmers' supply stores, 19,000 shoe stores, 15,000 cigar stores and stands, 14,000 auto supply stores, 12,000 jewelry stores, 12,000 variety stores, and 4,000 department stores and mail order houses.[2] There is much overlapping between these trades, such retail organizations as mail order houses, chain stores, and voluntary buying groups competing with wholesalers, distributors in one line competing with those in another, drug stores with hardware stores, hardware stores with auto supply stores, auto supply stores with variety stores, variety stores with candy stores, candy stores with food stores, food stores with tobacco stores, tobacco stores with drug stores, and mail order houses and department stores with stores of every other type.

Wholesale markets in general are national or regional; retail markets are local, but even in the latter case the number of competitors is usually large. There was one retail outlet to every 80 persons in the United States, one to every 70 persons in cities with more than 100,000 population, one to every 60 in towns and cities with 2,500 to 100,000 population, and one to every 100 in other areas in 1935.[3] There was a food store to every 270 persons, a filling station to every 650, a clothing store to every 1,680, and a drug store to every 2,280 in the country as a whole. In almost every trading center there are several establishments in every line.[4] The local merchant, moreover, must frequently compete with mail-order and house-to-house distributors and with stores in nearby towns.

Most trading establishments are comparatively small. In wholesaling only one-half of them and in retailing less than one-sixth take the corporate form. Corporations engaged in trade, constituting 31 percent of all corporations, had less than 6 percent of corporate assets in 1933. More than 57 percent of them had assets under $50,000; nearly 99 percent had assets under $1,000,000.[5] Among wholesalers,

[99] Bureau of Foreign and Domestic Commerce, National Income in the United States, 1929–35, p. 163.
[1] Census of Business, 1935, Wholesale Distribution, vol. 5, pp. 27–28.
[2] Idem., Retail Distribution, vol. 1, pp. 1–18.
[3] Ibid., vol. 2, p. 88.
[4] Cf., ibid. passim; Intra-City Business Census Statistics for Philadelphia, Pa., passim.
[5] Twentieth Century Fund, Big Business, Its Growth and Its Place (New York, 1937), pp. 56–57, 72.

incorporated establishments had average sales of $373,000 and unincorporated establishments had average sales of only $111,000 in 1935.[6] Among retailers, 97 percent had sales below $100,000, 78 percent below $20,000, and 60 percent below $10,000.[7] Nearly a million of them rang up less than $33 a day, hundreds of thousands of them less than $10 or $12 a day.

Despite the large number of trading establishments and the small size of most of them, there is substantial concentration in the field. Although corporations operate a small minority of these establishments, they make three-fifths of all the sales. While only 43 percent of trading corporations had assets over $50,000 in 1933, they received 94 percent of the net income reported by such concerns.[8] In wholesaling, the incorporated half of the establishments handled more than three-fourths and the unincorporated half less than one-fourth of the trade.[9] In retailing, 3 percent of the stores, with sales over $100,000, did more than a third of the business, and 0.1 percent, with sales over $1,000,000, did more than a tenth. Chain stores made nearly one fourth of all retail sales in 1935, selling more than a third of the groceries, half of the shoes, half of the auto accessories, and more than nine-tenths of the variety goods.[10] There were nine trading companies among the 250 largest corporations in the United States in that year. Two of them were mail-order houses: Sears, Roebuck & Co. and Montgomery Ward & Co. Four were chain-store organizations: The F. W. Woolworth Co., the Great Atlantic & Pacific Tea Co., the S. S. Kresge Co., and S. H. Kress & Co. Three were department stores: Gimbel Bros., Marshall Field & Co., and R. H. Macy & Co.[11] The largest of these concerns is Sears, with $286,000,000 in assets, 50,000 employees, and $500,000,000 in sales. The second largest is Woolworth's, with $230,000,000 in assets, 60,000 employees, and $300,000,000 in sales.[12] The third largest is A. & P., with $190,000,000 in assets, 90,000 employees, and $900,000,000 in sales.[13]

Although such mass distributors have attained great size and although they handle a substantial fraction of the retail trade, it cannot be said that they possess anything approaching a monopoly. The degree of concentration in this field does not compare with that which obtains in manufacturing. The 3 percent of the stores making a third of the sales in 1935 numbered nearly 50,000, the 0.1 percent making a tenth of the sales nearly 2,000. The chain stores, numbering 140,000, were operated by 6,000 different chains. Independent merchants, each with a single store, owned nine-tenths of the outlets and made two-thirds of the sales, handling more than three-fourths of the radios, clothing, lumber, and building materials, and gasoline, more than four-fifths of the fuel and ice, furniture, and drugs, and more than nine-tenths of the jewelry, hardware, and motor vehicles.[14] Goods of almost every kind are sold by scores of mail order houses, hundreds of chains, thousands of department stores, tens of thousands of independent retailers, and untold num-

[6] Census of Business, 1935, Wholesale Distribution, vol. 1, p. 40.
[7] Idem, Retail Distribution, vol. 1, pp. 1–31.
[8] Twentieth Century Fund, op. cit., p. 72.
[9] Census of Business, 1935, Wholesale Distribution, loc. cit.
[10] Idem, Retail Distribution, vol. 1, pp. 1–24.
[11] National Resources Committee, op. cit., p. 100.
[12] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 2, pp. 132, 141, 192, 201.
[13] Fortune, April 1938, p. 97.
[14] Census of Business, 1935, Retail Distribution, vol. 1, p. 1–24.

bers of consumers' cooperatives, supermarkets, door-to-door salesmen, and roadside stands. There is competition between distributors of the same type, between distributors of different types, and between distributors of all types and manufacturers who sell directly to consumers.

Even if all of the larger trading corporations were to combine, it may be doubted that they could obtain or hold a position of monopoly. There is no obstacle to entrance to the field. Capital requirements, particularly in the retail trade, are low. Quarters may be rented cheaply or obtained without expenditure. Among retail establishments in Poughkeepsie, N. Y., from 1923 through 1926, 52 percent of the confectionery stores, 59 percent of the saloons, and 66 percent of the independent grocery stores were located in the owners' homes.[15] The necessary equipment is inexpensive and can be bought at second hand. Stocks of goods are abundant; sources of supply are numerous and widely scattered; credit is readily available. Labor may be provided by unskilled workers hired at low wages, by the retailer himself, and by members of his family. The processes of distribution are simple. Technical training and managerial experience are not required. As a consequence, unemployed laborers and farmers by the thousands are constantly entering the retail field. It is estimated that the number of entrepreneurs in trade increased by 100,000 from 1933 to 1934, by another 100,000 from 1934 to 1937.[16] New types of distributive agencies are continually springing into life; the field is in a constant state of flux.

Instead of monopolizing the retail trade, the mass distributor has made it more actively competitive. Almost invariably, he has sought to obtain his profit by selling in greater volume at a lower price. By integrating operations, purchasing in quantity, eliminating costly services, increasing managerial efficiency, cutting operating expenses, and reducing profit margins, he has decreased his prices and increased his sales. His vigorous competition has forced the independent merchant to serve the consumer more efficiently. In the opinion of the Committee on Distribution of the Twentieth Century Fund, it "has brought widespread improvement of methods and lowering of costs and prices throughout retailing."[17]

The earnings of companies engaged in trade are usually low. In 1936, for example, only 69,263 of the 149,805 trading corporations reporting to the Bureau of Internal Revenue, or less than half of the total number, had made a profit; their aggregate net income was little more than 3 percent on total sales. The other 76,257 concerns had operated at a loss. In the whole group, income was little more than 2 percent on sales.[18] Unincorporated enterprises, which are many times as numerous, may have obtained an even lower return. Among the wholesalers covered by Dun & Bradstreet surveys in 1936, grocers made 1.3 percent, confectioners 2.2 percent, wholesalers of dry goods 2.7 percent, and wholesalers of paints and varnishes 4.0 percent on sales.[19] Among retailers, fruit and vegetable

[15] R. G. and A. R. Hutchinson and M. Newcomer, "A Study in Business Mortality," American Economic Review, vol. 28 (1938), pp. 497–514, at p. 506.
[16] Bureau of Foreign and Domestic Commerce, Income in the United States, 1929–1937 (processed), table 21.
[17] Twentieth Century Fund, Does Distribution Cost Too Much? (New York, 1939), p. 345.
[18] Bureau of Internal Revenue, Statistics of Income, 1936.
[19] Dun & Bradstreet, Wholesale Survey, 1937, Reports Nos. 1, 3, 4, 7.

markets made 1.2 percent, grocery stores 1.7 percent, automobile dealers 2.2 percent, filling stations 2.3 percent, country general stores 2.3 percent, city department stores 2.6 percent, hardware stores 3.6 percent, jewelry stores 4.8 percent, radio stores 5.9 percent, furniture stores 6.6 percent, and variety stores 6.6 percent on sales.[20]

These figures, of course, cover limited samples which do not include the smallest firms. They apply, moreover, to a profitable year. Average earnings are probably lower than the published information would suggest. According to the Twentieth Century Fund, "Considering the entire field and offsetting good years against bad, it is not unreasonable to suppose that the average profit ratio is not more than 2 percent on sales and may be as low as 1 percent."[21] No data are available covering the rate of earnings on investment for trading enterprises as a whole. Figures for some of the larger corporations in the field reveal a satisfactory return. Thirty-one department stores obtained an average net profit on tangible net worth of 5.96 percent in 1937 and 4.18 percent in 1938. Seven mail order houses made 12.14 percent in 1937 and 9.80 percent in 1938. Ten variety chains made 13.62 percent in 1937 and 10.96 percent in 1938. Fourteen grocery chains made 5.48 percent in 1937 and 6.72 percent in 1938.[22] Most trading companies, however, earn a meager living for their owners and little or nothing more. The typical entrepreneur in the field withdrew $1,718 from his business in 1929, $1,140 in 1933, and $1,400 in 1937. His average annual withdrawal from 1929 through 1937 was $1,392.[23]

Firms in trade have a high rate of mortality and a short expectancy of life. Among 157 wholesale companies established in Poughkeepsie, N. Y., between 1844 and 1926, two-thirds disappeared within 10 years, half within 5 years, one-third within 3 years, one-fourth within 2 years, and one-fifth within 12 months. Among 4,998 retail enterprises set up during the same period, three-fourths disappeared within 10 years, two-thirds within 5 years, half within 3 years, two-fifths within 2 years, and more than one-fourth within 12 months.[24] Three-fifths of the grocery stores and meat markets, two-thirds of the cigar stores, and three-fourths of the candy stores lasted less than 5 years. More than one-fourth of the grocery stores, one-third of the meat markets and cigar stores, and nearly half of the candy stores failed to survive their first year.[25] Among 5,766 grocery stores opened in Buffalo, N. Y., between 1919 and 1927, three-fifths went out of business within a year. In the same city, from 1918 to 1928, the annual mortality rate was 12.6 percent among drug stores, 16.2 percent among hardware stores, 21.8 percent among shoe stores, and 35.9 percent among grocery stores.[26] In Pittsburgh, Pa., from 1925 to 1934, one-fourth of the newly opened hardware stores, one-third of the drug stores, two-fifths of the shoe stores, and almost half of the grocery stores failed to reach their second year. The annual mortality rate was 9.4 percent for drug stores,

[20] Io[illegible], Retail Survey, 1937.
[21] Twe[illegible]ieth Century Fund, op. cit., p. 122.
[22] Work Projects Administration, Securities and Exchange Commission, op. cit. vol. 2, pp. 356–35
[23] Bureau [illegible] Foreign and Domestic Commerce, op. cit., table 22.
[24] Hutchir[illegible]on and Newcomer, op. cit., p. 500.
[25] Ibid., p. 502.
[26] E. D. [illegible] McGarry, Mortality in Retail Trade, University of Buffalo Studies in Business, No. 4 (1930

10.1 percent for hardware stores, 16.3 percent for shoe stores, and 20.0 percent for grocery stores.[27] In 32 county seat towns in 1935, only one-fourth of the drug stores, one-fifth of the hardware stores, one-eighth of the clothing and dry goods stores, one-ninth of the shoe stores, one-tenth of the grocery stores, 1 in 14 of the general and department stores, and 1 in 22 of the women's wear stores that had been in existence in 1915 were still doing business at the end of the 20 years.[28]

SERVICE TRADES

More than a million enterprises are engaged in the business of rendering nonprofessional personal services. Included in this group in 1935 were 153,000 eating places, 125,000 barber shops, 98,000 drinking places, 80,000 automobile garages and repair shops, 66,000 beauty parlors, 63,000 cleaning and dyeing establishments, 61,000 shoe repair shops, shoe shining parlors, and hat cleaning establishments, 46,000 local trucking businesses, 31,000 taxicab operators, 29,000 hotels, 23,000 laundries, 20,000 blacksmith shops, 17,000 funeral directors, 14,000 watch, clock, and jewelry repair shops, 13,000 printing shops, 11,000 automobile storage garages and parking lots, 11,000 tourist camps, 10,000 photographic studios, 10,000 news dealers, 9,000 grist mills, 8,000 radio repair shops, 8,000 upholstery and furniture repair shops, 8,000 motion picture houses, 7,000 plumbing and heating repair shops, 6,000 billiard and pool parlors and bowling alleys, and other thousands of establishments in scores of other trades.[29] Competition within each of these fields is confined to local markets. But here again the number of competitors is usually large. In Philadelphia, for instance, in 1935 there were 3,900 restaurants, 2,700 barber shops, 2,300 cleaning and dyeing establishments, 1,800 shoe repairing, shoe shining, and hat cleaning businesses, and 1,400 beauty shops.[30] In the same year, there were 48 eating places, 39 barber shops, 31 drinking places, 25 garages, 20 beauty parlors, 19 cleaning and dyeing establishments, 19 shoe repair shops, 14 trucking businesses, 10 taxicab operators, 9 hotels, 7 laundries, 6 blacksmith shops, and 5 funeral directors to every town or city of more than 2,500 population in the United States.

The typical local service enterprise is small. Average annual receipts in 1935 were $10,700 for eating places, $8,800 for news dealers, $7,200 for drinking places, $5,600 for garages, and $2,400 for tourist camps.[31] The receipts of 90 percent of the photographic studios, 95 percent of the beauty parlors and upholstery and furniture repair shops, 97 percent of the hand laundries, cleaning and dyeing establishments, and shoe repair shops, and 98 percent of the barber shops and watch, clock, and jewelry repair shops were under $10,000. Those of 60 percent of the photographic studios, 72 percent of the upholstery and furniture repair shops, 74 percent of the

[27] A. E. Boer, "Mortality Costs in Retail Trade," Journal of Marketing, July 1937, pp. 52–60.
[28] Hearings before the Temporary National Economic Committee, Part 1, p. 235.
[29] Census of Business, 1935, Service Establishments, vol. 1, pp. iii, 1–2, Retail Distribution, vol. I, pp. 1–18, Places of Amusement, p. xii, Hotels, p. 1, Tourist Camps, p. iii, Motor Trucking for Hire, p. 7; Statistical Abstract of the United States, 1938, pp. 826–829; Bureau of Foreign and Domestic Commerce, National Income in the United States, 1929–35, p. 146.
[30] Census of Business, 1935, Service Establishments, vol. 2, p. 190.
[31] Idem, Retail Distribution, vol. 1, pp. 1–18, Tourist Comps, p. 1.

beauty parlors, 75 percent of the hand laundries, 76 percent of the cleaning and dyeing establishments, 80 percent of the watch, clock, and jewelry repair shops, and 85 percent of the barber shops and shoe repair shops were under $3,000.[32] Among all of the enterprises listed by the census as service establishments, three-fourths took in less than $3,000 and more than a third took in less than $1,000.[33] The average number of employees was only 1.3 in beauty parlors, 1.1 in photographic studios, 0.7 in hand laundries, barber shops, and upholstery and furniture repair shops, 0.4 in shoe repair shops, and 0.2 in watch, clock, and jewelry repair shops.[34] In the majority of cases such enterprises are operated solely by proprietors or partners and by members of their families. There were 910,000 active proprietors and firm members connected with the 892,000 eating and drinking places, garages, and service establishments reported by the census in 1935.[35] Aside from such organizations as the motion picture house and restaurant chains, there has been little concentration in the field.

Earnings are even lower and the expectancy of life is even shorter in local service than in retail trade. It is estimated that the per capita withdrawals of entrepreneurs in 1934 were $1,187 in recreation and amusement undertakings, $1,049 in automobile, radio, watch, and other repairing businesses, and $881 in hotel, restaurant, laundry, cleaning and dyeing, and other personal service fields.[36] Among 3,933 service enterprises established in Poughkeepsie, N. Y., between 1844 and 1926, 67 percent of the barber shops, 73 percent of the express companies, 78 percent of the shoe shops, 83 percent of the tailor shops, 87 percent of the saloons, and 88 percent of the restaurants lasted less than 10 years: 46 percent of the express companies, 52 percent of the barber shops, 60 percent of the shoe shops, 65 percent of the tailor shops, 67 percent of the restaurants, and 68 percent of the saloons lasted less than 5 years; and 21 percent of the express companies, 26 percent of the barber shops, 30 percent of the shoe shops, 35 percent of the restaurants, 37 percent of the saloons, and 37 percent of the tailor shops lasted only 1 year.[37] All of the available evidence supports the conclusion that the local service trades, in general, are effectively competitive.

The business of transporting property by truck beyond the boundaries of local markets is carried on, says Fortune, by "a noisy, broiling mob of individual operators."[38] The business is easily entered: A down payment on a second-hand truck and enough money to buy the license plates are all that is required. The number of trucking concerns engaged in interstate commerce in 1940 was close to 35,000; the total number engaged in intrastate commerce was unknown. Among concerns reporting to the census in 1935, more than four-fifths of those in the former group and more than nine-tenths of those in the latter were unincorporated.[39] Among those applying to the Interstate Commerce Commission for permits or certificates

[32] Idem, Service Establishments, vol 1, p. xxviii.
[33] Ibid., p. xxvi.
[34] Loc. cit.
[35] Idem, Service Establishments, vol. 1, p. 1, Retail Distribution, vol. 1, pp. 2–4.
[36] Bureau of Foreign and Domestic Commerce, op. cit., p. 207.
[37] Hutchinson and Newcomer, op. cit., pp. 503–504.
[38] Fortune, February 1936, p. 47.
[39] Census of Business, 1935, Motor Trucking for Hire, p. 12.

under the Motor Carrier Act up to June 1936, half operated a single truck, two-thirds operated only one or two trucks, and nearly nine-tenths operated fewer than six.[40] Only 1,200 of these concerns are designated as class I carriers with revenues over $100,000 a year. The bulk of the business is handled by the smaller firms. The field has long been vigorously competitive. Truckers are now restrained from cutting rates below the minima prescribed under the Motor Carrier Act and under the laws of many States. But common carriers and contract carriers must still compete for traffic and both of them must meet the competition of large shippers who can buy trucks and haul goods for themselves. The industry has been characterized by low earnings and high mortality. Common carriers reporting to the Federal Coordinator of Transportation in 1932 were earning less than 2 percent on invested capital.[41] In one group of truckers who went into business in South Dakota in 1925, 50 percent lasted less than 3 years, 43 percent less than 2 years, and 28 percent less than 1 year.[42]

The publishing business in general may also be said to be competitive. In the publication of newspapers, to be sure, the degree of concentration is high. Among 2,000 dailies in the United States in 1937, more than 300 were controlled by 60 chains and more than 100 by 6 chains.[43] Among 104 of the largest cities in the country in 1940, there were 7 with a single paper and 13 others in which all of the papers were published by the same concern; among 82 cities with morning papers, there were 74 with 1 and only 8 with 2 or more; among 101 cities with evening papers, there were 72 with 1 and only 29 with 2 or more.[44] In other respects, too, the field appears to be noncompetitive. Heavy capital requirements restrict the entrance of new concerns. The publishers' association discourages its members from cutting advertising rates[45] and publishers sell papers to their readers at a customary price. But newspapers must compete with the radio and other media for advertising and with the radio and papers from other cities for circulation. Although the price at which they sell is rigid, there is active competition in the quantity and quality of features which are offered at this price. In the publication of periodicals, producers number in the thousands and the market in which they sell is more than Nation-wide. Nearly 6,500 weeklies, semimonthlies, monthlies, and quarterlies are published in this country at the present time.[46] Each differs from the others in form and content, but there are several of every major type. Journals that catch the public fancy find imitators by the score: Witness the recent growth of picture weeklies and magazines of pocket size. Journals adhering to tested formulas give way to those that have a new design; thus the Literary Digest was superseded by Time, the old Life by the New Yorker, and Vanity Fair by E-quire. The rate of turn-over is high; from January 1938 to

[40] Federal Coordinator of Transportation, Section of Research, Hours, Wages, and Working Conditions in the Intercity Motor Transport Industries, Part II, Motor Truck Transportation (1936), p. 6.
[41] Idem, Merchandise Traffic Report (1933), p. 11.
[42] F. T. Hadley, Motor Truck Transportation in Western South Dakota, South Dakota Agricultural Experiment Station, Circular II (1933), p. 20; cf. D. Philip Locklin, Economics of Transportation (Chicago, 1938), pp. 763–765.
[43] Editor and Publisher, 1938 International Yearbook Number, p. 128.
[44] Computed from Media Records, First Quarter, 1940, pp. 10–16.
[45] Cf. Clarence D. Long, Jr., "Newsprint: Costs and Competition," Harvard Business Review, vol. 18 (1940), pp. 372–383, at p. 383.
[46] Ayer's Directory of Newspapers and Periodicals, 1940, p. 11.

December 1939, 428 new periodicals were launched and 142 others disappeared.[47]

In the publication of books, 8,000 to 10,000 new titles are issued by some 300 houses every year. There is active competition in the sale of publishers' remainders, reprints, and cheap editions of older works. There is comparatively little competition in the pricing of newly published books. The copyright system grants the publisher a monopoly in the sale of every new title on his list. He establishes his price and maintains it for months at a time, seldom undercutting the prices charged for comparable titles produced by other firms. But the copyright, unlike the patent right, is limited to specific articles; it does not confer upon its owner the power to monopolize his trade. The reader has real alternatives; the same material may be found in several different books, in newspapers, and in magazines; books may be borrowed from private renting collections, from libraries, and from friends; they may be bought at second hand. The publisher must face the competition of these other sources of supply. Entrance to the field, moreover, is unobstructed and the rate of turn-over among publishing houses is high.

The business of producing plays in the legitimate theater is likewise competitive. Close to 5,000 plays are copyrighted every year; about 100 are produced on Broadway and, of these, three-fourths are failures, less than one-tenth are hits, and only two or three run into their second year.[48] The profits on a hit, however, are high; in a few cases they have run into the millions. The costs of producing a play, by comparison, are low; on anything but a musical show the curtain may be raised for a few thousands. Designers, costumers, and scene builders may be forced to wait for their pay. Theater owners may be persuaded to share in the risks of the venture. Other backers may be found to buy a piece of a prospective show. As a consequence, inexperienced producers are constantly entering the field. Half of those presenting plays on Broadway in any season are new concerns. The mortality among these enterprises is extremely high; it is said that 95 percent of them fail to survive a single year.[49] "The commercial theater in New York," according to the editors of Theatre Arts, "is not a business but a gamble in which a hit show is the only winning ticket." [50]

OTHER ASPECTS OF COMPETITION

The foregoing list of industries viewed as competitive is not an exhaustive one. It does include the more important trades in which there has been active competition in price. But even where custom or convenience make prices uniform and rigid, producers may compete in the quantity, quality, and appearance of the goods which they offer at the same figure, in upplementary services, in terms of payment, and in guarantees. Competition in these matters is more difficult to measure than is competition in price, but it may be quite

[47] As reported in the Bulletin of Bibliography and Dramatic Index, January–April 1938 to September–December 1939.
[48] Time, December 5, 1938, p. 44.
[49] Fortune, February 1938, pp. 66 ff.
[50] Theatre Arts, May 1940, p. 328; Cf. Lee Simonson, "The Theater: Gambler's Paradise," New Republic, vol. 72 (1932), pp. 93–96, Joseph Wood Krutch, "The Show Business," Nation, vol. 135 (1932), pp. 211–212, 227–228, 252–253, 277–278.

as effective in giving the consumer his money's worth. It occurs in many industries which have not been mentioned in the preceding pages. There is competition, too, between the producers of substitutes and even among producers of unrelated articles in making sales.

The area of the American economy that may be designated as effectively competitive is an extensive one, comprising as it does nearly all of agriculture, textile, and clothing production, wholesale and retail distribution, and the service trades, and many other extractive and manufacturing industries. But it must be noted that the very factors that operate to make these fields competitive have also given rise to numerous arrangements whereby the rigors of competition may be restrained. In some cases these arrangements have been inaugurated and enforced by strong trade unions. In others they have been developed and administered through trade associations. In still others they have been written into law. Arrangements of the latter types will be discussed in chapter V.

CHAPTER III

MONOPOLIZED MARKETS: THOSE IN WHICH ONE OR TWO FIRMS CONTROL NINE-TENTHS OR MORE OF THE SUPPLY

Industrial monopoly is no stranger to the American scene. Ever since the Civil War, business leaders have repeatedly contrived to eliminate competition, both by getting independent concerns to agree, secretly or formally, that they would no longer compete and by bringing former competitors under common ownership and control. The early combination movement had its origin in the eighties, flourished during the last decade of the nineteenth century, and reached its zenith in the opening years of the twentieth. By 1904, the so-called trusts had in their hands 40 percent of all the manufacturing capital in the United States.[1] For varying periods of time and to varying degrees they controlled the production, among other things, of asphalt, bathtubs, bicycles, cash registers, cordage, corn products, cotton yarn, cottonseed oil, chewing gum, electrical equipment, farm machinery, gunpowder, lead, leather, linseed oil, matches, meats, petroleum products, photographic materials, plate glass, rubber, shipping, shoe machinery, starch, steel, sugar, tobacco products, tin cans, window glass, and whisky. It is true that most of these combinations failed to achieve anything approaching complete monopoly power, that a majority of them were short-lived, and that many ended in financial disaster. But there were, in 1904, 26 trusts which controlled 80 percent or more of the production in their respective fields.[2] And there were at least 8 concerns—the American Can Co., the American Sugar Refining Co., the American Tobacco Co., the Corn Products Refining Co., the International Harvester Co., the National Cash Register Co., the Standard Oil Co., and the United Shoe Machinery Co.—that controlled, at one time or another, 90 percent or more of the output of some or all of their respective products. In this group one finds firms that succeeded in attaining a monopoly position sufficiently complete and sufficiently enduring to insure to their owners something well in excess of a competitive return.

FIRMS APPROACHING COMPLETE MONOPOLY IN AMERICA BEFORE THE FIRST WORLD WAR

Foremost among the trusts was Standard Oil. This company came to dominate the refinery business in the United States, not by realizing superior efficiency in the refining of petroleum, but by obtaining special advantages with respect to its transportation. The Standard,

[1] Henry R. Seager and Charles A. Gulick, Jr., Trust and Corporation Problems (New York, 1929), p. 61.
[2] John Moody, The Truth About the Trusts (New York, Chicago, 1904), p. 487.

a large shipper, persuaded the railroads to grant it substantial rebates, not only recovering 40 percent to 50 percent of the sums which it paid them for carrying its own oil, but also collecting a similar share of the rates paid by its rivals. At the same time it proceeded to acquire title to all of the pipe lines through which crude petroleum flowed from the producing fields on its way to the refineries. The company thus stacked the cards against its competitors. It maintained prices in its exclusive markets, slashed them successively in competitive markets, forced independent refiners into insolvency, and bought up their properties on its own terms. By crushing its weaker rivals and combining with its stronger ones, it achieved a substantial monopoly in the purchase, transportation, refining, and marketing of petroleum and its products. For three decades Standard Oil controlled more than 90 percent of the refinery business in the United States. It was in a position both to depress the price which it paid for crude petroleum and to advance the price which it charged for its refined products. In the face of improvements in technology which cut refinery costs, it was able to widen, instead of narrowing, the refiner's margin. Its profits mounted accordingly. From 1896 to 1906, Standard's average annual earnings were $60,000,000, its average dividends $40,000,000. Its net income ranged between 48.8 percent and 84.5 percent of the cost of its properties, with an annual average of 61 percent; its dividends ranged between 30 percent and 48 percent on the investment in its capital stock, with an annual average of 39.7 percent.[3]

The American Tobacco Co. was formed in 1890 by a combination of five manufacturers who produced, among them, 95 percent of the cigarettes made in the United States. It obtained, and held for 5 years, exclusive control of the machinery used in the manufacture of cigarettes. It maintained its virtual monopoly in the trade for 20 years. With the profits of the cigarette business it financed its expansion into allied fields. It waged relentless war on its competitors, temporarily producing fighting brands to undersell them, subsidizing bogus independents to compete with them, undercutting their prices in local markets, and making exclusive contracts with distributors which deprived them of their outlets. It bought and dismantled competing plants, exacting from their owners contracts which forbade them to reenter the trade. By these methods, the company extended its monopoly, controlling in 1910 the production of 76 percent of the smoking tobacco, 80 percent of the fine-cut tobacco, 85 percent of the plug tobacco, and 96 percent of the snuff. Its monopoly did not operate to increase the price paid by the ultimate consumer; it did, however, maintain this price at a time when it should have been reduced. Congress had imposed heavy taxes on tobacco products during the Spanish-American War and their prices at retail had risen accordingly. It reduced these taxes in 1901 and 1902. But the trust, instead of cutting prices, maintained them and appropriated for itself the whole advantage of the lower rates. Thereafter, it increased its wholesale charges and further augmented its profits by encroaching on distributors' margins. From 1890 to 1904, American Tobacco's annual return never fell below 41 percent of the value of its tangible assets; in the years 1895 to 1900 it ranged from 16 percent to 31 percent; in the years 1901 to 1908, it varied from 30 percent to 37 per-

[3] Eliot Jones. The Trust Problem in the United States (New York, 1926), ch. 5.

cent. The average annual profit during these 19 years was 34.5 percent. From 1905 to 1910, the company paid an average annual dividend of 29 percent on the nominal value of its heavily watered stock.[4]

The American Sugar Refining Co., created in 1887, combined 17 refiners who processed 70 percent of the Nation's sugar. By 1892 it had absorbed 5 of its 6 remaining competitors, bringing under its control 98 percent of the domestic sugar supply. The trust was protected from foreign competition by a duty on refined sugar which exceeded that on raw sugar by 1 cent per pound, an amount which was nearly double the cost of refining. It proceeded at once to raise its price, widen its margin, and realize large profits. When new refineries were built to compete with it, it undersold them, bought them out, and raised its price again. Repeatedly throughout its history it thus lost and then regained control of the industry. The company was aided in this process by customs officials who cut its tariff costs by underweighing its imports and by railroad officials who cut its freight bill by underweighing its shipments. It was able to pay dividends on its watered stock amounting to 22 percent in 1893 and averaging 12 percent from 1894 to 1899.[5]

The Corn Products Refining Co., established in 1906, merged the Corn Products Co., itself an earlier combination of the starch and glucose trusts, with its one remaining rival in the glucose trade. The company and its predecessors followed the familiar pattern of combining existing concerns, raising prices, attracting new competition, waging a price war, acquiring the new properties, and raising prices again. During its early history, it entered into an agreement with other starch manufacturers for the purpose of maintaining the price of starch. It attempted to exclude competitors from the glucose market by offering year-end discounts to those of its customers who would buy nothing from them during the year. It set up bogus independents to run them out of business. It was also a beneficiary of discrimination in railroad rates. In 1906 and for a short period thereafter it processed 92 percent of the corn ground in the United States and controlled 100 percent of the country's trade in glucose products.[6]

The American Can Co., in 1901, combined 95 of the 100 and more can makers in the United States. It entered into exclusive contracts with the manufacturers of automatic can-making machinery which made it impossible for its competitors to obtain up-to-date equipment. It enjoyed an intimate connection with the American Tin Plate Co., which not only gave it a decisive competitive advantage by enabling it to obtain secret rebates on its purchases of raw material, but also threatened to interfere with the delivery of plate to other producers and even to cut them off completely from their source of supply. It established bogus independents to undercut the prices charged by its competitors. It thus forced them to sell out, purchased their plants, and dismantled two-thirds of the properties which it bought. In command of the industry, it proceeded to advance prices by as much

[4] Ibid., ch. 7; Seager and Gulick, op. cit., ch. 10; Roy E. Curtis, The Trusts and Economic Control (New York, 1931), pp. 337–338, 352–354.
[5] Jones, op. cit., ch. 6.
[6] Myron W. Watkins, Industrial Combinations and Public Policy (Boston, 1927), ch. 10.

as 60 percent. At the time of its formation and for some years thereafter it made nine-tenths of the Nation's cans.[7]

The National Cash Register Co., organized in 1882, set out deliberately to destroy its competitors. It hired their employees away from them. It bribed their employees and the employees of common carriers and telephone and telegraph companies to spy on them and disclose their business secrets. It spread false rumors concerning their solvency. It instructed its agents to misrepresent the quality of their goods, interfere with their sales, and damage the mechanism of their machines in establishments where they were in use. It publicly displayed their cash registers under labels which read, "Junk." It made, and sold at less than cost, inferior machines called "knockers," which it represented to be just as good as theirs. It threatened to bring suit against them and their customers for alleged infringements of patent rights. It induced their customers to cancel their orders and repudiate their contracts. It intimidated prospective investors in competing plants by publishing lists of defunct competitors and by exhibiting in a "graveyard" at its factory samples of the machines which they had formerly made. Such practices, carried on over a period of 20 years, gave the company control of 95 percent of the Nation's production of cash registers.[8]

The International Harvester Co., organized in 1902, brought together five manufacturers who sold 85 percent of the harvesting machinery made in the United States. For 10 years it produced nine-tenths of the Nation's output of binders. At one time or another it made, as well, 71 percent of the rakes, 83 percent of the mowers, 85 percent of the reapers, and 91 percent of the tedders. Its strength, during the years of its supremacy, is to be attributed to its large financial resources, efficient organization of distribution, and relatively low costs of production, not to any special privilege or to an aggressive effort to eliminate its competitors. The company made larger profits on its monopolized than on its competitive products; on its domestic than on its foreign sales; enjoyed a rate of profit higher than that earned by its rivals. It made 13.43 percent on its conservative capitalization in 1909, 12.77 percent in 1910, 18.59 percent in 1917, and 19.59 percent in 1918, its best years. But its profits, in general, were moderate, the annual average standing at 8.47 percent from 1903 to 1911 and at 12.48 percent from 1913 to 1918.[9]

FIRMS APPROACHING COMPLETE MONOPOLY IN AMERICA SINCE THE FIRST WORLD WAR

Of the eight great corporations that almost completely monopolized their respective industries near the turn of the century, only one, the United Shoe Machinery Corporation, now retains its former degree of monopoly power. Prosecution under the anti-trust laws and the establishment of competing enterprises have compelled the others to relinquish exclusive control. Twenty major companies among some 900 now refine more than four-fifths of the Nation's oil, but only 8 of

[7] *U. S.* v. *American Can Co. et al.*, 230 Federal Reporter 859.
[8] Seager and Gulick, op. cit., pp. 446–449; Curtis, op. cit., pp. 72–74; Jones, op. cit., pp. 477–479.
[9] Jones, op. cit., ch. 10; Seager and Gulick, op. cit., ch. 15; Arthur F. Burns, The Decline of Competition (New York, 1936), pp. 109–118.

them are former members of the Standard group.[10] Three companies now share four-fifths of the output of cigarettes.[11] The American Sugar Refining Co. now owns 30 percent, instead of its former 98 percent, of the country's sugar refining capacity.[12] The Corn Products Refining Co. controls 40 percent, instead of 100 percent, of the glucose trade.[13] The American Can Co. shares with two other concerns 90 percent of the production of tin cans.[14] While data on concentration of output among the manfacturers of cash registers are not disclosed, it appears that two of them produced nine-tenths or one of them three-fourths of the total in 1937.[15] The bulk of the output of farm machinery is now manufactured by five corporations; the International Harvester Co. makes less than half of the total.[16]

These early trusts and their successor companies no longer enjoy exclusive occupancy of their respective fields. But the almost complete monopolization of a market by a single firm is by no means a thing of the past. Today one company in each field controls all, or nearly all, of the Nation's supply of aluminum, nickel, molybdenum, magnesium, shoe machinery, glass container machinery, and scientific precision glass, provides nearly all of the domestic telephone service and all of the trans-oceanic service, and operates all of the sleeping and parlor cars. Other concerns stand in a similar position with respect to important segments of the markets for international cable and radio communication, oil pipe line and railway freight transportation and trans-oceanic aviation. There are, in addition, numerous public utility corporations and innumerable small-town enterprises which enjoy complete monopolies in the local markets which they serve.

ALUMINUM

For more than 50 years, the Aluminum Co. of America has produced 100 percent of the Nation's output of alumina and virgin aluminum ingot. For some 30 years it has been reported to own or hold more than 90 percent of the commercially available supply of the raw material, bauxite. It has used 100 percent of the bauxite produced in the United States. In 1937, according to the Department of Justice, the company owned or controlled more than 85 percent of the supply of secondary scrap aluminum and a similar share of all the virgin aluminum produced in or imported into the country. It made and sold 50 percent of the aluminum cooking utensils, owned 26 percent of the capital stock of the Aluminum Goods Manufacturing Co., the second largest producer of such utensils, and had two of its officers on the directorate of this concern. The Aluminum Co., together with licensees under its patents, manufactured 80 percent of the output of aluminum pistons. It made and sold 90 percent of the aluminum sheet, 95 percent of hard aluminum alloys, and 100 percent of the aluminum wire, cable, bars, rods, tubing, and extruded and structural

[10] Hearings before the Temporary National Economic Committee, Part 14, p. 7103.
[11] Ibid., pt. 1, p. 137.
[12] U. S. Cane Sugar Refiners Association, Sugar Economics (1938), p. 91.
[13] Fortune, September 1938, p. 56.
[14] Hearings before the Temporary National Economic Committee, pt. 1, p. 137.
[15] Thorp and Crowder, loc. cit.
[16] Federal Trade Commission, Report on the Agricultural Implement and Machinery Industry, 75th Cong., 3d sess., H. Doc. No. 702 (1938), pp. 1023–1024.

shapes.[17] The company has been protected throughout most of its history by customs duties high enough practically to exclude foreign competition from the American market. For more than 20 years it was made secure in its domestic monopoly by the ownership of the basic patents which covered the electrolytic process for the production of aluminum. When these patents expired in 1909 it was already in possession of the ores, the techniques, the personnel, the organization, and the financial resources which enabled it to maintain its position.

The war demand for aluminum from 1915 to 1918 and the increasing popularity of the metal in the years after the war enabled the company greatly to expand the scale of its operations. It was entirely successful in its efforts to prevent the establishment of competing concerns. It acquired many of the available water power sites, built power plants, and generated its own electricity, large quantities of which were required in its manufacturing processes. It is said to have entered into agreements with other power companies which bound them to sell electricity to no other producer of aluminum.[18] It bought stock in corporations which controlled two other manufacturers of aluminum sheet. When the Republic Carbon Co. undertook to enter the aluminum business, it purchased one-third of the capital shares of that concern.[19] When a French firm which had built a plant in North Carolina was deprived of its foreign backing by the outbreak of the First World War and sought capital in the United States, the Aluminum Co. was so powerful that no American banker would finance a competitor, and the company acquired the property on its own terms. When another promoter planned to produce aluminum at a power site on the Saguenay River in northern Quebec, it bought the site for some $16,000,000 from its owner, James B. Duke, deprived the prospective competitor of his sources of power, and thus prevented him from entering into competition.[20]

The Aluminum Co. competes with independent fabricators in the production of finished goods. It is also the only source from which these independents can obtain their supply of aluminum ingots and sheets. This situation gives the company a marked advantage over its competitors in the business of fabrication, an advantage of which it is said to have availed itself for the purpose of driving independent fabricators from the field. By raising the price of raw materials and lowering the price of finished products, the company can so reduce the margin within which such independents must operate as to make it unprofitable for them to remain in business.[21] The Department of Justice contends that the Aluminum Co. has thus compelled two small manufacturers to suspend operations and driven a third into an alliance with a foreign concern.[22] The Department charges, moreover, that the company has extracted information from independent fabricators concerning their bids on contracts sought by its own subsidiaries, charged them prices higher than those charged its subsidiaries, supplied them with inferior aluminum, delayed shipments made to them, refused to sell to them, and prevented them from

[17] *U. S.* v. *Aluminum Company of America, et al.*, District Court of the U. S., S. D. of N. Y., Equity, No. 75–83. Petition, April 23, 1937, pp. 14–15.
[18] Time, June 13, 1938, p. 60.
[19] *U. S.* v. *Aluminum Company of America*, op. cit., pp. 35–36.
[20] Donald H., Wallace, Market Control in the Aluminum Industry (Cambridge, 1937), pp. 115–117, 132–137.
[21] Burns, op. cit., pp. 441, 445.
[22] *U. S.* v. *Aluminum Company of America*, op. cit., pp. 38–41.

turning to foreign sources for raw materials by threatening to cut off their supplies.[23]

For more than three decades the Aluminum Co. has undertaken to eliminate foreign competition by directly or indirectly extending its control over foreign producers. According to the Department of Justice, the company itself or its officers, directors, agents, subsidiaries, or affiliates have entered into agreements with foreign producers to remove accumulated stocks, limit world production, allocate world markets, and fix prices; have purchased foreign ore deposits, power sites, and producing facilities, which could be used to undersell foreign producers in their own countries, thereby discouraging them from invading the American market; and have acquired joint interests in aluminum properties with the major foreign producers, thereby creating an identity of interests on a world-wide scale.[24] In 1908, the Northern Aluminum Co., Ltd., a Canadian corporation organized by the Aluminum Co., entered into a contract with a Swiss company, then the principal foreign producer, whereby the American and Canadian concerns agreed not to sell in the European market and the Swiss concern agreed not to sell in the Western Hemisphere. In 1912, the principal provisions of this contract were canceled by a decree of a United States district court. Thereupon the Northern Co. entered into another contract with the major European producers, which restricted sales, allocated markets, and fixed prices outside of the United States. This contract was abandoned after the outbreak of war.[25] In 1916, the Aluminum Co. began to acquire holdings abroad, organizing or obtaining control of concerns in British and Dutch Guiana, Norway, Yugoslavia, France, and Italy, and acquiring joint interests in other firms in Norway, France, Italy, and Spain.[26] Thereafter, the foreign producers submitted uniform bids to American purchasers and refused to sell aluminum in the American market at prices lower than those charged by the American concern.[27] In 1928, Aluminium, Ltd., was incorporated in Canada under the sponsorship of the Aluminum Co. The new corporation took over the Aluminum Co.'s European properties and delivered its capital stock to the latter concern which, in turn, distributed it among its own stockholders. Aluminium, Ltd., makes no sales in the United States; the Aluminum Co. does not compete with it in the sales which it makes abroad. The Canadian concern has maintained the relationships with foreign producers originally established by the American firm. In 1931, it joined with British, French, German, and Swiss companies to form the Alliance Aluminium Compagnie, acquiring 28 percent of the stock and representation on the directorate of this agency. The Alliance used its funds to buy up accumulated stocks of aluminum and hold them off the market. Its board of directors was empowered to allocate production among its members and to fix the prices at which they might sell. The Department of Justice contends that the Aluminum Co., through Aluminium, Ltd., has undertaken to restrict competition in world markets and to curtail foreign sales in the United States, thereby evading

[23] Ibid., p. 41: see also Wallace, op. cit., pt. IV.
[24] *U. S.* v. *Aluminum Company of America,* op. cit., pp. 16–17.
[25] Ibid., pp. 17–18.
[26] Ibid., pp. 18–24.
[27] Brief for the United States, *U. S.* v. *Aluminum Company of America et al.,* District Court of the U. S., S. D. of N. Y., October 3, 1938, pp. 10–15; reply brief for the United States in the same case, June 16, 1939, p. 14.

the provisions of the Sherman Act and the injunction laid down in the decree of 1912.[28]

Throughout its history the company has set the price of aluminum in the United States. At times it has passed on to the consumer a large part of the reduction in cost which has resulted from continuous technological progress; at other times it has increased its margin and augmented its profits. It cut prices steadily from 1889 to 1897, maintained them rigidly from 1898 to 1908, cut them again before the war, raised them during the war, cut them in the post-war depression, raised them steadily from 1922 to 1925, cut them between 1925 and 1928, maintained them from 1928 to 1930, cut them slightly in 1930, maintained them rigidly during the next 3 years of the great depression, and cut them again between 1933 and 1937.[29] On March 1, 1937, the company again raised prices, despite the fact that its sales had nearly doubled and its profits more than doubled during the 2 preceding years.

The Aluminum Co.'s profits have been large. In the 50 years from the time of its incorporation in 1888 up to 1939 its net income was in excess of $335,000,000.[30] In the 24 years from 1889 through 1912 it made $33,000,000 on an original investment of $2,000,000. Its average annual return on invested capital stood at 35.7 percent from 1905 to 1908, at 17.6 percent from 1909 to 1914, at 19.3 percent from 1915 to 1918, at 9.4 percent in 1919 and 1920, at a loss of 2.3 percent in 1921 and 1922, at 10.2 percent from 1923 to 1929, and at 2.6 percent from 1930 to 1934.[31] The company averaged nearly 12 percent on invested capital from 1935 to 1939; its net income of $36,600,000 in 1939 was the largest in its history.[32]

SHOE MACHINERY

The United Shoe Machinery Co., organized in 1899, combined seven concerns which owned patents covering virtually all of the shoe machinery manufactured in the United States. This company and its successor, the United Shoe Machinery Corporation, shortly acquired possession of 50 of the remaining plants. By 1911 it was producing over 96 percent of the bottoming-room machinery and between 94 percent and 100 percent of all but one of the other machines that were used in the manufacture of shoes.

Instead of selling its machines, the company adopted the policy of leasing them, charging shoe manufacturers a royalty for each pair of shoes on which they were used. It inserted in its leases restrictive clauses which were designed to exclude its competitors from the market. It forbade the manufacturer to use any other maker's machine for any process in which one of its own machines was employed. It denied him the right to use its own machines on shoes which were processed at any stage of their production on machines made by its rivals. By means of the latter device, the company extended its control from its exclusive fields to those in which it had formerly been

[28] Petition, op. cit., pp. 25–27. See also Donald H. Wallace, "Aluminum," ch. 6 in William Y. Elliott and others, International Control in the Non-Ferrous Metals (New York, 1937).

[29] Edwin G. Nourse and Horace B. Drury, Industrial Price Policies and Economic Progress (Washington, 1938), pp. 176–183, 202–213.

[30] Petition, op. cit., p. 13; Moody's Industrials, 1939.

[31] Wallace, Market Control in the Aluminum Industry, pp. 30, 226.

[32] Poor's Industrials, 1940.

faced by competition. The shoe manufacturer, who could obtain a lasting machine only by leasing it from the United Shoe Machinery Corporation, was compelled to turn to it also for his welter, stitcher, and metallic fastener, and the independent producers of those machines were robbed of their customers. The device operated also to continue far beyond the statutory 17 years the protection afforded the company by its patents. As long as any one of these patents granted it the exclusive right to produce a single machine, the tying clause in its contracts extended its monopoly to each of the others.

In cases brought against it under the antitrust laws, the Supreme Court upheld the company in 1913 and 1918 and issued an order in 1922 forbidding the further use of tying clauses in its leases. The latter decision has in no way affected the corporation's position in the industry. For more than four decades it has been virtually the sole producer of shoe machinery, the sole market for patents on new machinery, and the sole purveyor of services on such machinery in the United States.[33]

In its early years the company made huge profits, paid large dividends in cash and in stock, and built up a substantial surplus. From 1925 to 1930, the average annual return on its capital stock and surplus stood at 11 percent; in 1931 and 1932, at 8.5 percent; and from 1933 through 1937, at more than 13 percent.[34] As Fortune puts it in the title to its article on the United Shoe Machinery Corporation, "But business is always good."

GLASS CONTAINER MACHINERY

The Hartford-Empire Co. owns more than 700 patents covering the automatic machinery which is used in the production of glass containers. The company does not itself manufacture machines or containers. Its business is that of research, experimentation, and the exploitation of patent rights. It hires other concerns to build its patented machines, retains title to them, and leases them to the manufacturers of glass containers, providing certain services in connection with their use. It derives its income from initial license fees and subsequent royalty charges which are designed to yield it one-third of all the savings realized by its licensees through the use of its equipment.[35] Hartford patents cover the plunger feeder which utilizes the gob-feeding method of feeding glass into the forming machine. The company has contrived to prolong its patent protection on this process for a period of 44 years. Steimer, its inventor, filed the first application for a patent in 1910. Hartford purchased his rights for $2,300 in 1917. Interferences and appeals kept the application in the Patent Office for another 20 years. The company meantime divided the invention into four separate parts, obtained a patent on one in 1925, on another in 1928, on a third in 1931, and on the fourth in 1937. The final patent will not expire until 1954.[36] The Owens-Illinois Glass Co. owns the rights to the suction feeder which embodies the only other method of feeding that can be economically employed. Owens-Illinois, itself a manufacturer of glass containers,

[33] Jones, op. cit., ch. 8; Seager and Gulick, op. cit., ch. 15; Fortune, September 1933, pp. 34 ff.
[34] Moody's Industrials, 1939.
[35] Hearings before the Temporary National Economic Committee, Part 2, p. 428.
[36] Ibid., pp. 438–441; Part 3, pp. 853–854. 1134.

has refused, since 1918, to grant licenses permitting its competitors to use this machine.[37] Other container manufacturers, therefore, have had no alternative but to turn to Hartford for their feeding equipment. Hartford licensees produced 67.4 percent and Owens-Illinois 29.2 percent of the glass containers made in the United States in 1937. Together they produced 96.6 percent of the total output, leaving only 3.4 percent to the three remaining firms. Hartford licensees made 80 percent of the packer's ware, 80 to 85 percent of the fruit jars, and 100 percent of the milk bottles. Aside from Owens-Illinois, they produced more than 95 percent of the glass containers made in that year.[38]

The Hartford Co. has consistently undertaken to eliminate competition in the production of machinery for the glass container industry. According to a policy memorandum taken from its files, it has applied for patents designed "to block the development of machines which might be constructed by others for the same purpose as our machines, using alternative means" and for other patents "on possible improvements of competing machines so as to 'fence in' those and prevent their reaching an improved stage."[39] The company's president was interrogated concerning the significance of this memorandum in the hearings before the Temporary National Economic Committee:[40]

Mr. Cox. Is it your policy to take out patents to block the development of machines which might be constructed for the same purpose as your machines?

Mr. SMITH. Only insofar as to protect our own machines.

Mr. Cox. There is no qualification of that kind in that memorandum, is there?

Mr. SMITH. Not as it reads.

Mr. Cox. You mean you only take out a patent to block the development of some other patent when you are afraid somebody else is going to sue you?

Mr. SMITH. No; I am not cognizant of any such purposes or any such means. If we think that a new idea might be developed over a course of the year by someone else, and we think that idea may affect our machinery and our licenses, we may from time to time try to protect that idea. * * *

The CHAIRMAN. So in order to protect the inventions you now have it is naturally in your interest to secure whatever hold you can upon any competing idea or competing machinery.

Mr. SMITH. Correct.

Mr. Cox, Not always with a view to using those ideas immediately, Mr. Smith?

Mr. SMITH. Yes and no. Sometimes yes, we do use them; sometimes we don't.

The company has required its licensees to surrender to it such patents as they may obtain by making improvements on its machines.[41] It has compelled them to waive their right to contest the validity of its own patents.[42] It has repeatedly brought suit against its competitors for alleged infringement of patent rights.[43] It offered one competitor a cross license on condition that he raise the price of a machine from $9,500 to $13,500 and send the additional $4,000 to Hartford. When he refused, it brought suit against one of his customers and virtually drove him from the trade.[44]

[37] Ibid., Part 2, p. 505.
[38] Ibid., pp. 383, 385.
[39] Ibid., p. 776.
[40] Ibid., pp. 387, 389.
[41] Ibid., p. 592.
[42] Ibid., p. 453.
[43] Ibid., pp. 443–444; 625–637.
[44] Ibid., pp. 596–602.

Hartford-Empire has entered into mutually advantageous arrangements with the more powerful interests in the industry. It signed a cross licensing contract with the Corning Glass Works in 1922 by the terms of which Hartford agreed to lease none of its machines to the manufacturers of a variety of glass products other than containers, giving Corning the exclusive right to grant licenses under Hartford patents in this field, and Corning agreed to license no container manufacturers to use its patented formulae for the production of container glass, giving Hartford exclusive control of its patents in the container field.[45] This agreement was facilitated by the common ownership and interlocking directorates of the two concerns. Other agreements have been concluded as treaties of peace following prolonged legal warfare. The company entered into an arrangement with Owens-Illinois, in 1924, whereby Hartford gave Owens the free use of 40 machines, a share of its divisible income—half for 8 years, a third for another 3 years, and a lump sum of $2,500,000 in 1935—and the right to veto its extension of licenses to Owens' competitors, and Owens agreed, in return, to pay royalties to Hartford and to assume half of the cost of prosecuting infringement suits against third parties.[46] The company made a similar contract in 1932 with the Hazel-Atlas Glass Co., the second largest manufacturer of glass containers in the country, Hartford agreeing to pay Hazel one-third of its divisible income, and Hazel, though not a user of Hartford machines, agreeing to take out a license and pay royalties on its entire output.[47] A third treaty, concluded in 1933, ended Hartford's warfare on Ball Bros., the Nation's largest producer of fruit jars. Hartford persuaded Owens and Hazel to restrict their output of jars, imposed limitations on another producer that forced him to sell his business to Ball, bought back still another license permitting the production of jars, and bound itself to grant no further licenses in this field. Ball Bros., though it used no Hartford machines, took out a license and promised to pay royalties on its future output.[48]

Hartford has employed the power conferred upon it by its patents not only to monopolize the container machinery business, but also to eliminate competition from the container industry itself. It gave Owens and Hazel unrestricted licenses and, in effect, turned over to them part of the royalty charges which it collected from their competitors. It inserted restrictive clauses in its other leases, limiting the types of ware its licenses could make, the quantity they could produce, and the territories in which they could sell. Its contract with the Florida Glass Co. permitted that concern to manufacture milk and cream bottles, "provided, however, that the licensee shall not produce in any calendar year on any and all feeders licensed to it by licensor more than 21,000 gross of such bottles."[49] Similar limitations were imposed upon the Knox Glass Bottle Co. of Oil City, Pa.:[50]

> Mr. Cox. Now was that license you were given an unrestricted license?
> Mr. UNDERWOOD. No; we were restricted with respect to a limited number of milk bottles, I believe 75,000 gross.

[45] Ibid., pp. 637–651.
[46] Ibid., pp. 491–498.
[47] Ibid., pp. 526–544.
[48] Ibid., pp. 522–525, 561–571, 579–595.
[49] Ibid., p. 405.
[50] Ibid., p. 587.

Mr. Cox. How many milk bottles had you been making before that?
Mr. Underwood. Approximately 100,000 to 150,000 per annum.
Mr. Cox. You asked for more milk bottles?
Mr. Underwood. That's right.
Mr. Cox. But you didn't get them?
Mr. Underwood. We didn't get them. * * *

Hartford's contract with the Northwestern Glass Co. permitted that concern to sell its wares only in Oregon, Idaho, Montana, and Alaska. Its agreement with the Laurens Glass Works, Inc., read as follows: [51]

You are authorized to make under the said licenses a total of not over 4,000 gross per calendar year under both of said licenses, of panel bottles not exceeding 14 ounces in weight. The said bottles are to be sold chiefly to the Globe Medicine Co. or to the Standard Drug Co., or both, of Spartansburg, S. C. But you are also authorized, until further notice, to sell a part of such total of 4,000 gross per year to small users of such bottles in your vicinity.

The Hartford company has refused to grant licenses to firms which undertook to enter into competition with its established licensees. A group of local business men sought to establish a plant in Detroit: [52]

Mr. Cox. And you asked them at that time for a license.
Mr. Day. I did.
Mr. Cox. And what did they say in reply to that request?
Mr. Day. They indicated that they would not refuse us a license, but that they would rather not extend a license to us, pointing out that Owens-Illinois was very close to us, that if we did start a factory they no doubt would put in a warehouse and then the competition would be too strong and we, of course, would be wiped out.

The Knox company applied for permission to make carbonated beverage bottles: [53]

Mr. Cox. Were you granted that privilege?
Mr. Underwood. No, sir.
Mr. Cox. Did they tell you why you couldn't do it?
Mr. Underwood. I can't say that they ever gave us any detailed reply on that. They simply refused it.

An independent manufacturer in Texas testified to a similar experience: [54]

Mr. Coleman. * * * in all the talk that we had at Hartford * * * they consistently refused to discuss even the remote possibility of a milk-bottle license in Texas. They could offer no explanation and denied at that time that the Liberty Glass Co. did have exclusive right, but they could not grant us one. * * *

The Chairman. So what it amounted to in the final analysis was that you couldn't receive a certificate of convenience and necessity from the Hartford-Empire Co. to operate a Texas plant with Texas capital to develop a Texas production.
Mr. Coleman. That is true.

According to the president of Owens-Illinois, however, "the Hartford Co. have always been liberal in granting licenses to anybody who should be of a business type." [55] The preferred type of licensee is defined more explicitly in a policy memorandum taken from the Hartford files: [56]

Consequently we adopted the policy which we have followed ever since, of restricted licenses; that is to say, (*a*) we licensed the machines only to manufacturers of the better type, refusing many licensees who we thought would be

[51] Ibid., p. 406.
[52] Ibid., p. 621.
[53] Ibid., p. 592.
[54] Ibid., pp. 613, 618.
[55] Ibid., p. 508.
[56] Ibid., p. 417.

price cutters; and (*b*) we restricted their field of manufacture in each case to certain specific articles with the idea of preventing too much competition. * * *

That this policy was satisfactory to container manufacturers of "the better type" is indicated in the following excerpt from a letter written by the president of Owens-Illinois: [57]

With the plans we now have, there is certain to be a curtailment of the promiscuous manufacture of milk bottles on nonlicensed feeders, which will result in our company's and the Thatcher Co.'s securing a greater proportion of the available milk bottle business. This should stabilize the price and increase the earnings of the Thatcher Co.

Hartford has enforced its control of the container field by extensive litigation. It has brought suit against concerns that undertook to produce containers without its permission, eaten into their earnings, and driven them from the field.[58] The experience of the producer who unsuccessfully sought to obtain a license to make milk bottles in Texas is illuminating: [59]

Mr. COLEMAN. We were sued for infringement of some 9 or 10 claims. I don't recall at the present time.

Mr. COX. Tell us about the outcome of that litigation.

Mr. COLEMAN. We naturally were finally forced to hire a patent attorney. We had to acquire the services of a Texas attorney, and I think there are some two or three patent attorneys in the State. They brought us into court in April of 1935, as I recall. Well, when I arrived at San Angelo and met them there in the hotel, I can conservatively say there was half a train load of attorneys and equipment. There were motion picture projectors and attorneys all over the place. I don't know anyone of the Hartford legal staff that was not there. They were prepared to give us a nice battle. Well, I had only one attorney, and he was considerably lost in that crowd. I wish you might have seen his face that morning. So I promptly asked for a recess until the afternoon, in order to see if we couldn't settle the case out of court.

Mr. COX. Did you settle the case out of court?

Mr. COLEMAN. We were able to settle the case out of court; yes, sir * * *.

Mr. COX. Is that Knape-Coleman Co. operating today?

Mr. COLEMAN. No, sir; it is not.

Hartford-Empire has thus enhanced its royalty income by keeping production and prices in the container industry under its control.

The company has enjoyed substantial profits. From 1912 through 1937 the average annual return on its investment was 9.99 percent. It made 16.64 percent in 1934, 23.59 percent in 1935, 48.24 percent in 1936, and 67.77 percent in 1937.[60]

On December 11, 1939, the Department of Justice filed a complaint in an antitrust suit against Hartford-Empire, Corning, Owens-Illinois, Hazel-Atlas, and other firms in the field, asking that the restrictive provisions in the Hartford-Empire leases be adjudged illegal and their further use enjoined, that the agreements between Hartford-Empire and each of the other defendants be dissolved and their further observance enjoined, that Hartford-Empire be dissolved, that its patents and other properties be distributed among several separate and independent concerns, that Corning and the Empire Machine Co. and their stockholders (who own the shares of both concerns) be enjoined from holding stock in Hartford-Empire or any of its successors, and that each of the corporate defendants be enjoined from holding stock in

[57] Ibid., p. 520.
[58] Ibid., pp. 611–618, 625–637.
[59] Ibid., pp. 614–615.
[60] Ibid., p. 798.

any of the others.[61] The legal issues in the case await final determination.

OPTICAL GLASS

The Bausch & Lomb Optical Co. manufactures some 17,000 different products, including lenses for spectacles, binoculars, microscopes, motion picture projectors, and various precision instruments employed in science and industry. While it faces competition in the production of some of these goods, the company manufactures every ounce of scientific precision glass which is made and sold in the United States. It is the only American concern to possess the techniques and the technicians requisite to production in the field.[62]

Bausch & Lomb has long been closely associated with the German producers of optical goods. The firm was established in 1853 and operated for some years under the patents of the famous Carl Zeiss, of Jena. It sold one-fifth of its stock to Zeiss, who agreed, in turn, to withdraw from the American market. The resulting division of territory persisted until the First World War, when the American company alienated its German associates by producing optical equipment for the Allied Governments. Bausch & Lomb thereupon repurchased its stock from the Zeiss Co. and, by the end of the war, emerged as a strong competitor of the latter concern.

In 1921, however, the two companies signed an agreement governing the manufacture and sale of military optical instruments under the terms of which Bausch & Lomb took the United States and Zeiss took the rest of the world as their respective territories; each firm obtained the exclusive right to employ patents, technical information, equipment, and personnel belonging to the other; each agreed not to sell in the other's territory without its express permission and where permission was granted to sell only on terms which the other approved; and each bound itself, when submitting bids at the request of governments in territory allotted to the other, to add 20 percent to its regular price.[63] This arrangement was attacked in a suit instituted by the Department of Justice in 1940; fines were imposed on Bausch & Lomb and its officers, and the agreement with Zeiss was enjoined in a consent decree.[64]

According to a renewal of their contract which was signed in 1926, the two companies were to "remain in unrestricted competition" in the nonmilitary branches of the industry. But another provision followed: "They shall, however, endeavor to give due consideration to one another's interests as those interests may be disclosed by the joint work in the military line. Special agreements may be made regarding territories on nonmilitary articles."[65] The fact that the American company, although fully capable of producing high quality lenses for cameras, has abstained from entering into competition with the German producers of such lenses, or from licensing other American firms to do so, suggests the continued existence of some sort of an international agreement covering the production and sale of nonmilitary optical goods.

[61] *U. S.* v. *Hartford-Empire Company, et al.*, District Court of the United States, N. D. of Ohio, W. Div., Complaint, December 11, 1939.
[62] Fortune, April 1931, pp. 41 ff.
[63] *U. S.* v. *Bausch & Lomb Optical Co., et al.*, District Court of the U. S., S. D. of N. Y., Indictment, March 26, 1940.
[64] New York Times, May 28, 1940; July 10, 1940.
[65] Securities and Exchange Commission, docket section, file 2–3544–1, agreement between Carl Zeiss, Jena, and Bausch & Lomb Optical Co.

NICKEL

The International Nickel Co. of Canada, Ltd., owns more than nine-tenths of the world's known reserves of nickel. The company produced more than 92 percent of the world's output of nickel in 1929. In the Sudbury deposits, concentrated within a few square miles in the Province of Ontario, it holds a store that will suffice, at the present rate of consumption, to satisfy the world's demands for the metal for the better part of a century. The company is without a serious rival. There is one other Canadian producer, Falconbridge Nickel Mines, Ltd., but International's production, in 1937, was 15 times as large and its reserves were seventy times as large as those of the smaller concern. The principal source of nickel outside of the Dominion is in the island of New Caledonia. Here a number of French firms produced a tenth of the world's annual supply during the years from 1920 to 1931. But International's production in this period was nine times as large and its reserves were 50 times as large as those of New Caledonia. The geological character of the island's deposits is such that expansion of output is obtainable only at increasing unit costs. The character of the Sudbury deposits, on the other hand, is such that the technology of large scale production can be employed to turn out increasing quantities at a declining unit cost. Finnish deposits were being developed in 1939 by the Mond Nickel Co., Ltd., of England. But this concern is a wholly owned subsidiary of International Nickel. Other known deposits are low in quality and small in quantity. Unless important new reserves are discovered and independently developed, there is little prospect that competition will challenge International's supremacy in the field.[66]

The United States has a substantial interest in the Canadian nickel monopoly. This country accounted for 70 percent of the world's consumption of the metal in 1929. Contraction in the production of automobiles brought its share down to 35 percent in 1932.[67] Expansion in the production of armaments abroad brought it down to 25 percent in 1938. But the United States is still the largest single market for nickel in the world.[68] Industrial recovery at home and the cessation of hostilities abroad might be expected to restore something approaching its former share in total consumption. This country is almost entirely dependent upon the International Co. as a source of supply. Falconbridge and the New Caledonian producers sell their output in Europe. International has a virtual monopoly of the American market.[69] Despite the fact that its ores and its charter are Canadian, this company is largely an American concern. Until 1928 its entire capital stock was owned by the International Nickel Co., a New Jersey corporation. In that year the Canadian company issued its own shares and exchanged them for those of its American parent "partly" says Fortune, "to avoid any antitrust complications with the U. S. Government."[70] It still has an American subsidiary, International Nickel Co., Inc., a Delaware corporation, and this company with its subsidi-

[66] Elliott and others, op. cit., ch. 5, "Nickel" by Alex Skelton, pp. 115, 118–122, 160, 174; Fortune, August, 1934, pp. 64 ff. Moody's Industrials, 1938; New York Times, October 22, 1939.
[67] Elliott and others, op. cit., p. 159.
[68] New York Times, October 22, 1939.
[69] Elliott and others, op. cit., p. 159.
[70] Fortune, op. cit., p. 102.

aries owns and operates fabricating plants at Bayonne, N. J., and Huntington, W. Va., and maintains sales offices in the United States. The principal ownership of the Canadian company is American. In 1934, citizens of the United States owned 42.6 percent, citizens of Great Britain 33.6 percent and citizens of the Dominion of Canada only 21.6 percent of its shares.[71] Thus, a large part of International Nickel's revenue is derived from the price it charges consumers who are located in this country and a large part of its dividends is paid to owners who reside in this country.

International Nickel set its price at 35 cents a pound on January 1, 1926. It has neither raised nor lowered this price by so much as a fraction of a cent, during prosperity and depression, over a period of 14 years.[72] From their 1929 peak the company's sales fell off 40 percent in 1930, 56 percent in 1931, and 73 percent in 1932,[73] but the price was maintained. Unsold stocks accumulated in 1930 and in 1931, but instead of cutting its price, the company cut its output, operating its mines at 12 percent of their potential capacity in 1932 and making sales from stores already above ground.[74] In the latter year International permitted its share in sales to drop to 60 percent, that of Falconbridge to rise to 14 percent, and that of New Caledonia to 17 percent of the world total.[75] Rather than reduce its price, it chose to wait for business revival to restore its former share. It could well afford to wait. In 1932, when its sales stood at less than 20 percent of its productive capacity, the company met all of its expenses, set aside substantial reserves, and paid two-thirds of its interest bill out of its year's earnings.[76] With its break-even point thus established at about 20 percent of capacity, with the only source of nickel capable of satisfying a substantial revival in demand securely in its hands, International was content to sit out the depression. By 1934 it had recaptured 85 percent of the world market. By 1937 its sales were 500 percent above those of 1932, 65 percent above those of 1929.[77]

International Nickel has made money in 20 of the 22 years since the First World War. Its profits have fluctuated widely, however, reaching three successive peaks, first in the war years of 1917 and 1918, second in the prosperity years of 1928 and 1929, and third in the years since 1934. The price of nickel sold in the United States after this country entered the First World War was fixed by the War Industries Board. In the summer of 1917, when the Federal Trade Commission estimated the cost of producing nickel at 18¾ cents a pound, the Board set its price at 40 cents. At the beginning of 1918, when the Commission's estimate stood at 22 cents, the Board cut the price to 35 cents. The resulting margins of 21¾ cents, and, later, 17 cents, were highly profitable. The company made $14,000,000, realizing 23 percent on its investment in the year ending March 31, 1918.[78] From a deficit in 1922, it climbed steadily to a net profit of $22,000,000 in 1929.[79] From a deficit of $135,000 in 1932, it climbed rapidly to net

[71] Elliott and others, op. cit., p. 174.
[72] New York Times, October 22, 1939.
[73] Elliott and others, op. cit., p. 192.
[74] Ibid., p. 154.
[75] Ibid., p. 157.
[76] Ibid., pp. 154, 190.
[77] Moody's Industrials, 1938.
[78] 74th Cong., 1st sess., S. Rept. No. 944, Part 2, Munitions Industry, Preliminary Report on Wartime Taxation and Price Control by the Special Committee on Investigation of the Munitions Industry, pp. 70–72.
[79] Elliott and others, op. cit., p. 190.

profits of $10,000,000 in 1933, $18,000,000 in 1934, $26,000,000 in 1935, $37,000,000 in 1936, and $50,000,000 in 1937.[80] Its profits in 1937, equivalent to 23 percent of net worth, were more than three times those of 1918, more than twice those of 1929. The company made $32,000,000 in 1938 and $37,000,000 in 1939, realizing 15 percent and 17 percent on net worth in these 2 years.[81]

MOLYBDENUM

Molybdenum is an element which finds its principal employment, either in competition or in combination with other alloying metals, in the production of steels of exceptional toughness and strength. In Bartlett Mountain in Colorado, the Climax Molybdenum Co. owns 95 percent of the world's known store of commercially workable deposits of this metal. At the present rate of exploitation the company's proven reserves should last for a hundred years.[82] Its estimated annual productive capacity is 84 percent of the world's potential total. In 1937 Climax sold 22,000,000 of the 30,000,000 pounds of molybdenum consumed in the world. But with its existing equipment the company could have produced 35,000,000 pounds, and with additional equipment some 45,000,000 pounds, an amount which was twice its actual output and one half again as much as the total of the world's consumption. In 1938 Climax was responsible for 85 percent of the domestic output of the metal. In 1939, however, the production of molybdenum as a by-product of copper assumed increasing importance and the company's share fell to 70 percent of the total.

Since 1931 Climax has found its principal markets abroad. It makes nine-tenths of its foreign sales in the form of molybdenum concentrates, but itself converts nine-tenths of the metal which it sells at home. The company has participated in an international cartel which included in its membership the European converters of molybdenum and other metals. Under the terms of the cartel agreement, the European firms bound themselves to sell no molybdenum in the Western Hemisphere, in Japan, in China, or in Russia. These markets were reserved for Climax.[83]

There has been no price competition in the American market, the smaller producers being content to adopt the figure set by Climax. For more than a decade the company consistently cut its price, selling molybdenum metal contained in ferro-molybdenum at $5 a pound before 1920, at $2 to $2.75 from 1920 to 1924, at $1.50 in 1925, at $1.45 in 1926 and 1927, at $1.20 from 1928 to 1930, and at 95 cents in 1931. In the latter year the price was stabilized; it still stood at 95 cents in 1938. The lower price which obtained during the thirties still left Climax a substantial margin. Of every dollar paid to the company for molybdenum in the years from 1934 to 1939, 52.4 cents were required to cover the costs of its production and 47.6 cents were retained as profit.[84]

The Climax Co. was incorporated in 1918. It made no profits until 1932. In that year it realized 3.12 percent on its invested capital; in 1933 it made 14.42 percent, and in 1934, 26.45 percent. In 1935 the

[80] Moody's Industrials, 1938.
[81] Moody's Industrials, 1940.
[82] Fortune, October 1936, pp. 105 ff.
[83] Memorandum in files of Temporary National Economic Committee.
[84] Moody's Industrials, 1940; Poor's Industrials, 1939.

company added a "discovered increment" of $70,500,000 to its appraisal of its ore deposits, raising the valuation of its invested capital from $7,500,000 to $78,000,000. On the new basis of valuation it realized 7.65 percent in 1935, 6.65 percent in 1936, 9.10 percent in 1937, 9.97 percent in 1938, and 13.13 percent in 1939. On the former basis of valuation its profit would have appeared to be 10 times as large, rising from 76.5 percent in 1935 to 131.3 percent in 1939. Of the equity items on the corporation's balance sheet in 1938, $67,000,000 were recorded as a "discovery increment surplus," $12,000,000 as an earned surplus, and only $39,311 as the value of its capital stock. The company's net profit of $7,872,141 in that year gave it a return of 20,000 percent on the book value of its shares.[85]

MAGNESIUM

Magnesium is an element which is used in the production of light metal alloys. It occurs, never in the pure state, but always in combination, in deposits which are abundant and widely distributed. The only compound from which it has been economically extracted, however, is magnesium chloride, and the only considerable supply of this compound is contained in the brine deposit of Midland, Mich. Midland's brine wells are owned by the Dow Chemical Co., and this company, since 1927, has extracted 100 percent of the magnesium produced in the United States.[86]

Magnesium can be substituted for aluminum in the production of light alloys. The metal was once produced by the American Magnesium Co., a subsidiary of the Aluminum Co. of America, but this firm retired from the field when its own oxide process proved to be more costly than the chloride process employed by Dow. The patents covering the use of magnesium in alloys, however, are controlled by the Magnesium Development Co., a joint subsidiary of the I. G. Farbenindustrie and the Aluminum Co. The latter concern appears, therefore, to be in a position to control the use of the metal in alloys. The price of magnesium has fallen and its production has increased over a long period of years. The price was maintained at 30 cents a pound, however, from 1931 to 1939 and stood at 27 cents in 1940. At such a figure the widespread substitution of magnesium for aluminum is unlikely to occur. It is evident that the Dow Co., in possession of the natural deposits, and the Aluminum Co., in control of the patent rights, have certain interests in common, and that both concerns have advantages over independent fabricators of magnesium and its alloys.

In March 1940 Dow started building a plant at Freeport, Tex., where it planned to employ an electrolytic process in extracting magnesium from sea water. It was said that this plant, when completed, would more than double the company's annual productive capacity.[87]

Magnesium, according to Dow advertising, is "known in metallurgic circles as Dowmetal (trade mark registered U. S. Patent Office)" and "Dowmetal is riding high!" [88]

[85] Ibid.
[86] Fortune, April 1931, pp. 58 ff.
[87] Time, April 1, 1940, p. 66.
[88] Fortune, January 1940, inside front cover.

TELEPHONE SERVICE

The American Telephone & Telegraph Co. owns 93 percent of the voting stock in 21 associated telephone companies whose operations cover the entire area of the United States. Directly or through its subsidiaries, it controls more than 50 percent of the voting stock in 181 corporations with assets in excess of $5,000,000,000, the greatest aggregation of capital in the history of business. It has, within this system, some 300,000 employees, 700,000 investors, and 15,000,000 customers. Its gross revenues of more than a billion dollars a year are exceeded by those of few governments. From its office in New York, the company controls between 80 and 90 percent of the Nation's local telephone service, 98 percent of the long distance telephone wires, 100 percent of the teletypewriter and transoceanic radio telephone services and 100 percent of the wire facilities used in the transmission of radio programs. Through its wholly owned subsidiary, the Western Electric Co., it makes 90 percent of the telephone apparatus and equipment used in the United States.[89] The president of the American Co. is empowered to vote its stock in the operating companies and to select the directors and officers of these concerns.[90] The parent company is thus in direct and complete control of the entire telephone system.[91]

The company receives its principal income from dividends paid it by the associated telephone companies, from fees charged for services rendered them, from the earnings of the long distance lines which it operates itself, and from the profits of the Western Electric Co. This income is derived ultimately from the rates paid by subscribers to telephone service. It has long been recognized that this service is an essential one, that it is to be most efficiently performed by a single system, and that the rates charged for it must therefore be subject to public control. Intrastate rates are now regulated by State commissions in all but three of the States; interstate rates are under the jurisdiction of the Federal Communications Commission. But public control of the telephone system is far from complete; the American Co. is beyond the reach of the State commissions; the fees it collects for services rendered its subsidiaries are not subject to direct regulatory review; the prices charged by the Western Electric Co. are wholly outside the present scope of public authority.

Absence of control in one area operates to defeat the attempt at regulation that is made in another. The American Co. is in a position to order its operating subsidiaries to adopt policies which will augment its own profits by increasing their costs and raising their rates. The Federal Communications Commission, in a report published in 1939, charges that the company has not hesitated to take advantage of its opportunity. American Telephone & Telegraph accounting procedures, the Commission contends, require the associated companies to include in operating expenses depreciation charges known to be in excess of actual requirements, but forbid them to deduct more than a part of depreciation reserves in arriving at the valuation of their properties, thus inflating both operating expenses and property valua-

[89] Federal Communications Commission, Investigation of the Telephone Industry in the United States, 76th Cong., 1st sess., H. Doc. No. 340, pp. xxiii–xxv, 21, 24, 65.
[90] N. R. Danielian, A. T. & T., The Story of Industrial Conquest (New York, 1939), p. 4
[91] Federal Communications Commission, op. cit., pp. 103–122.

tions and thereby supporting excessive rates.[92] Annual charges for depreciation have not been reduced by an amount sufficient to compensate for the increasing length of life of the telephone plant. These charges, in 1937, were close to 20 percent of the total expenses involved in operating the system and therefore accounted for nearly a fifth of the telephone subscriber's bill. Reserves, built up out of such charges, exceed a billion dollars and represent more than 25 percent of the gross investment in telephone plant and property. The associated companies insist, however, that only "observable" depreciation should be deducted from the value of their plants in the determination of the rate base, and the depreciation "observed" by their experts has amounted to only 5 to 10 percent, instead of 25 percent, of this value.[93] To the extent to which reserves, accumulated from rates paid by subscribers, are thus permitted to swell the base upon which further rate payments are computed, the subscribers are compelled to pay the companies a return on money which they themselves have contributed.

The fee which the American Co. collects from the associated companies, now set at 1½ percent of their gross income, includes many items which are not properly allocable to the service it renders them.[94] The company requires its subsidiaries to support research and patenting activities through which it not only develops improvements in the art of telephony, but also obtains patents which are designed to preserve its monopoly in the telephone service and in the manufacture of apparatus and equipment and to enable it to extend its operations into industries outside the field of telephonic communication.[95] The company has consistently undertaken to anticipate and control the development of related industries.[96] A. T. & T. research in radio produced inventions which led, first, to a patent stalemate between the telephone company on the one hand, and the General Electric Co. and its then subsidiary, the Radio Corporation of America, on the other, and, subsequently, to a series of pooling agreements which gave each interest an exclusive territory within which it might exploit the patents owned by both. The first of these agreements, in 1920, gave radiotelegraphy and transoceanic radiotelephony to G. E., domestic wire and radiotelephony and the manufacture and sale of radio equipment for use in public service telephony to A. T. & T. A long struggle for possession of the field of radio broadcasting was terminated by a second agreement in 1926. This treaty gave exclusive rights in wireless telegraphy, broadcasting, photo, facsimile reproduction, and television services to R. C. A., and in wire and wireless two-way telephony and in wire photo, facsimile reproduction and television services to A. T. & T. A third agreement, concluded in connection with the dismissal of an antitrust suit in 1932, made the exclusive licenses nonexclusive, but left the existing division of territory undisturbed.[97]

A. T. & T. research in sound recording and reproduction for motion pictures again brought the company into conflict with R. C. A. Its subsidiary, Western Electric, established a sub-subsidiary, Electrical Research Products, Inc., to handle its business in this field. The telephone group attempted to monopolize the new industry by for-

[92] Ibid., ch. 11.
[93] Danielian, op. cit., pp. 351–353.
[94] Federal Communications Commission, op. cit., ch. 6.
[95] Ibid., ch. 7.
[96] Danielian, op. cit., pp. 114–116.
[97] Ibid. pp. 112–133.

bidding producers using its recording equipment to distribute films to exhibitors who did not use its reproducing equipment and by forbidding exhibitors using its reproducing equipment to display films not recorded on its recording equipment. It imposed upon one producer a contract which required him to pay royalties on all the films he distributed, whether recorded on its equipment or not.[98] Representatives of E. R. P. I. are said to have referred to apparatus manufactured by R. C. A. as "bootleg" and to have threatened the motion picture industry with patent infringement suits.[99] Faced, however, with determined resistance by R. C. A. and with the prospect of prosecution under the antitrust laws, A. T. & T. finally came to recognize the necessity of sharing the field with the other concern. The two interests now divide the business of making sound recording and reproducing equipment and E. R. P. I. has become one of the major financial interests in the motion picture field.[1]

Still other A. T. & T. research, carried on by the Bell Telephone Laboratories, has to do with such matters as television, telephoto transmission, the properties of sound, phonograph recording, the artificial larynx, aids to the hard of hearing, marine signaling, submarine cable, ship-to-shore radio, aircraft communication, coaxial cable, and the photo-electric cell. Altogether the patents to which the Bell System holds title numbered, in 1934, some 9,500.[2] A. T. & T. research and patenting activities are financed in large measure by the fees collected from the associated companies.[3] The resulting patents, however, belong not to the associated companies, but to the parent concern. The American Company charges its subsidiaries for the use of the very inventions whose development their previous payments have financed and employs the resulting revenue to develop further inventions for whose use it will collect a further fee.[4] The company licenses firms outside the system to use its patents, collects royalties, and retains the resulting income, refunding nothing to the subsidiaries whose contributions have paid for the research from which this income is derived.[5] The patent policy of the parent company thus affects the costs of its operating subsidiaries and influences the rates which the telephone subscriber is required to pay.

The Bell System has spent large sums on advertising, propaganda, and other public relations activities.[6] Its annual advertising budget, in the years from 1927 to 1935, fluctuated between $4,372,000 and $7,477,000. In several cases it is said to have purchased space for the purpose of influencing the editorial policy of the journals which it employed.[7] Contracts for printing telephone directories are said to have been let to high bidders for political reasons. Between 1925 and 1934, the Bell companies and Western Electric spent nearly $5,000,000 on membership dues and contributions to business, professional, scientific, social, and athletic clubs. The associated companies have sought the friendship of local bankers; in 1935 they had money on deposit in 28 percent of all the banks in the United States. The system has

[98] Ibid., pp. 142–143.
[99] Ibid., p. 148.
[1] Ibid., p. 152.
[2] Hearings Before the Temporary National Economic Committee, Part 3, p. 1158.
[3] Danielian, op. cit., pp. 169–171.
[4] Ibid., p. 172.
[5] Federal Communications Commission, op. cit., p. 172.
[6] Ibid., ch. 17.
[7] Danielian, op. cit., pp. 314–317.

financed lecturers, subsidized the publication of books, and produced motion pictures in an effort to cultivate good will.[8] The costs of such activities, designed to protect and enhance the parent company's profits, are properly to be borne by its stockholders, not by subscribers to telephone service.

The American Co. handles the financing of the whole system. It makes advances to the associated companies, supplies them with the capital which they require, and charges them for the costs incurred in the process. The company's advances to its subsidiaries reached a high which averaged $317,000,000 during 1932. For a long period prior to October 1936, it charged interest on these advances at the rate of 5.88 percent net; in that month it cut the rate to 4.9 percent net. Year after year the company has collected at the rate fixed, neither altering its charge with fluctuations in the rates charged by other lenders, nor permitting its subsidiaries to borrow from other sources of supply.[9] The company includes, in computing its fee for financing its subsidiaries, the dividend which it pays on its own stock. This dividend is fixed at a rate far in excess of that required to obtain money in the open market. It is a distribution of profit, not a cost of doing business. Its size is attributable, in large measure, to the absence of effective regulation. Its inclusion in the costs of the associated companies is scarcely to be justified.[10]

The facilities employed by the American Co. and by the associated companies in rendering long distance service so overlap that it is impossible to determine either the reasonableness of the tolls charged or the fairness with which the resulting revenues are divided. The fact that the American Co. received an average annual return of 10.92 percent on its investment in its long lines department from 1913 to 1935 suggests either that its tolls have been excessive or that its divisions of territory, plant, revenues, and expenses have been such as to afford it an undue advantage.[11] Publication of this situation during the hearings before the Federal Communications Commission led to a reduction in long distance rates which cut the return on the long lines plant from 9.78 percent in 1936 to 7.64 percent in 1937.[12]

Until the end of 1927, the American Co. retained title to all of the telephone instruments used in the system and rented them to the associated companies for an annual fee. At that time the new type hand set, introduced during the previous year, threatened to render the existing desk set obsolete. On December 31, 1927, the company sold the instruments then in use to its subsidiaries for $38,183,727. Its profit on the transaction was $14,395,800, a return of 60 percent on its net investment in the property transferred. Production of the old fashioned sets declined sharply during the next 2 years and was virtually discontinued by 1930.[13] According to the Communications Commission, however, "The American Co. disclaims that its knowledge of the obsolescence of the existing instruments was a motive for their sale to the associated companies."[14]

[8] Ibid., pp. 284–292.
[9] Ibid., pp. 359–360.
[10] Federal Communications Commission, op. cit., ch. 15.
[11] Ibid., pp. 524–529.
[12] Danielian, op. cit., p. 364.
[13] Federal Communications Commisison, op. cit., pp. 151, 153.
[14] Ibid., p. 152.

The American Co. establishes standards and issues instructions which compel the associated companies to purchase practically all of their apparatus, equipment, and plant materials from the Western Electric Co. Six small independent producers of such supplies, subsisting largely on the business which the Western Co. gives them, are in no position really to compete with it in the telephone market. Since Western obtains its orders without competitive bidding, it is not forced to sell at a competitive price. The company's cost accounts do not afford an authentic basis for testing the reasonableness of the prices which it sets upon specific products. Its prices, moreover, bear no apparent relation to its own statement of costs. Both costs and prices for many items are above those reported by independent firms.[15] Western Electric profits have never been subject to any sort of public control. From 1882 to 1936 the company realized a net income on its common stock equity that exceeded 10 percent in 35 of the 55 years, and 20 percent in 13 years; a net income on cash paid-in capital that exceeded 20 percent in 41 years, 50 percent in 25 years, and 100 percent in 6 years.[16] Commissioner Paul A. Walker, in his proposed draft of the Communications Commission's report, asserts that the company could cut the prices of its apparatus and equipment by 37 percent and still earn a return of 6 percent on its net investment. He comes to the conclusion that "the American Co. utilizes its ownership and control of both the Western Electric Co. and the associated companies for the purpose of evading regulation of the associated companies and increasing its profits." [17]

Excessive charges made by the American and Western Cos. enter into the operating expenses and property valuations of the associated companies and compel the State commissioners to fix rates which yield them something more than a fair return on a fair value. In the opinion of Commissioner Walker, it should have been possible in 1938 to reduce telephone rates by as much as 20 or 25 percent.[18] In its final report in 1939 the Commission asserts that, as a result of its investigation of the industry, "telephone-rate reductions now aggregating in excess of $30,000,000 were effected in the interest and for the benefit of the American telephone-using public." [19]

Its monopoly position has brought the American Co. a handsome return. This company and its predecessor realized 18.4 percent on the par value of its capital stock and paid an annual cash dividend averaging more than $15 on each $100 share thereof during the years from 1881 to 1899, declared a 100 percent dividend in stock in 1900, realized 11.44 percent on its doubled capitalization during the years from 1900 to 1929, paid an annual cash dividend of $7.50 from 1900 to 1905, $7.75 in 1906, $8 from 1907 to 1920, $8.75 in 1921, and $9 in every year after 1921, realized 7.9 percent on its capital stock in the years from 1930 through 1935, and had accumulated an undistributed surplus of $400,000,000 by the end of 1931 which enabled it to maintain its $9 dividend without interruption throughout the great depression.[20] The company's ability consistently to obtain profits and dis-

[15] Ibid., ch. 10.
[16] Ibid., pp. 551–553.
[17] Federal Communications Commission, Proposed Report, Telephone Investigation (1938), p. 385.
[18] Ibid., p. 675.
[19] Federal Communications Commission, Investigation of the Telephone Industry in the United States, p. 602.
[20] Ibid., pp. 504–508.

tribute dividends far in excess of those necessary to enable it to sell its stock at par gives evidence that its return has been well above that which might be expected to prevail under either active competition or effective regulation.

INTERNATIONAL COMMUNICATIONS

There are three companies each of which enjoys a monopoly of one form of communication between the United States and several foreign countries. The Commercial Pacific Cable Co., a subsidiary of the International Telephone & Telegraph Corporation, is the only concern to operate a submarine cable across the Pacific. Its lines extend from San Francisco to Honolulu, Midway, Guam, Manila, and Shanghai and connect at Bonin with the Japanese Government cable which extends to Tokio. The company has a monopoly of cable service between the United States and these points. R. C. A. Communications, Inc., a subsidiary of the Radio Corporation of America, dominates the field of point-to-point radiotelegraphy. The company handled four-fifths of the commercial messages transmitted through this medium in 1938.[21] It was the only company licensed by the Federal Communications Commission to render a general commercial service between the United States and some twenty foreign countries. The Mackay Radio & Telegraph Co. had a similar monopoly of the service to El Salvador, Hungary, and Peru; the Tropical Radio Co. to the Bahamas and Honduras; Globe Wireless, Ltd., to Guam and the South Puerto Rico Sugar Co. to Guadeloupe in the French West Indies.[22] The American Telephone & Telegraph Co. and the Radio Corporation of America have entered into cross-licensing agreements which give the former the right to employ certain important patents in the field of international radio-telephony. The American Co. has licensed no other concern to use these patents. The Federal Communications Commission has licensed no other concern to engage in the business of providing two-way radiotelephone communication between the United States and foreign countries. As a result, the American Co. has a complete monopoly of this service.[23] In the general field of international communication each of these companies competes with the others. In the business of providing one-way communication to most points the cable and radiotelegraph offer competitive services. In the business of providing two-way communication they do not compete. Here the American Co. stands alone. The rates charged for these services are subject to regulation by the Federal Communications Commission.

OIL PIPE LINES

Most of the crude oil which moves from producing fields to refineries flows through trunk pipe lines. Comparatively little of it is transported in tank cars or in tank trucks. Shipment over the rails is more than twice as costly as shipment through pipes. Truck hauls are limited to small quantities and short distances. Nearly all of the

[21] Federal Communications Commission, Selected Financial and Operating Data from Annual Reports of Telegraph, Cable, and Radiotelegraph Carriers, Year Ended December 31, 1938 (mimeo.), sec. B, p. 21.
[22] Idem, Third Annual Report, pp. 64–65.
[23] Idem, Investigation of the Telephone Industry in the United States, pp. 379–380.

crude oil transported overland moves through pipes. Substantial quantities of oil are carried in tank ships, but this method of transportation can be employed only by those producers who have access to terminal facilities on navigable waterways. Seventy-one percent of all the oil received at American refineries in the years from 1934 to 1938 was delivered by pipe lines.[24]

The largest oil producing fields are served by three or more trunk pipe lines, but smaller fields are served by only one or two, and the smallest fields are usually served by only one. Even in the larger fields, however, the individual oil producer may be so located that he can afford to lay gathering lines to only one of the trunk lines. In many cases, therefore, the only alternatives available to the producer are to purchase transportation service from a single concern or to sell his oil in the field to the same concern. In its relation to the producer who is so situated, the pipe line company stands either as a monopolist or as a monopsonist.

Most of the companies which operate trunk pipe lines are owned or controlled by the major integrated oil companies. Fourteen of these concerns own 89 percent of the trunk pipe line mileage in the United States.[25] This situation gives the integrated company a competitive advantage over the independent producer and the independent refiner. If it charges itself a high rate for transporting its own oil to its own refineries, it does not reduce the profitability of its operations as a whole. But when it charges the independent producer the same rate for carrying his oil to an independent refinery, it augments its profits at his expense. High pipe line rates induce the independent producer to sell his output to the integrated concern, depress the price which he obtains, and make it unprofitable for him to compete in the business of production. High pipe line profits can be used to finance the refineries of the integrated concern and thus make it difficult for the independent to compete in the business of refining.

The relationship between the major oil companies and their pipe line subsidiaries is similar to that which has obtained between the anthracite coal companies and the anthracite carrying railroads. Congress, in the Hepburn Act of 1906, prohibited common carriers from transporting commodities in the production of which they had an interest. In the same act, Congress gave oil pipe line companies the status of common carriers and made their rates subject to regulation by the Interstate Commerce Commission. But it specifically excluded these concerns from the provisions of the commodities clause. Divorcement of the business of transporting oil from the businesses of producing and refining it, although frequently proposed, has never been enacted into law.

The common carrier status of the pipe line companies is nominal rather than actual. The companies have long made a practice of refusing to accept shipments in quantities which fall below some stated minimum, such as 100,000 or 50,000 barrels. By this device they have denied many independent producers access to pipe line facilities and thus compelled them to sell their output in the fields. The companies now hold title to more than nine-tenths of the oil which

[24] Hearings before the Temporary National Economic Committee, Part 14–A, p. 7719.
[25] Ibid., p. 7723.

they transport.[26] The rates charged on oil carried for others have never been stringently controlled. These rates are set by the companies themselves and are allowed to stand unless they are challenged. They have rarely been contested, since shippers have lacked the resources, the independence, or the courage to bring cases before the Commission. Assertion has repeatedly been made, however, that rates charged for pipe line services have been exorbitant.[27]

Pipe line operations have been highly profitable. The companies reporting to the Interstate Commerce Commission, taken together, realized more than 22 percent on their investment in each of the 10 years from 1929 through 1938, more than 28 percent in 6 of these years, more than 30 percent in three, and more than 33 percent in the year 1929.[28] Fifteen of the major pipe line companies enjoyed an average return of 28.4 percent in 1938; the Atlantic Pipe Line Co. and the Sinclair Refining Co. each made 50 percent in that year; the Texas-Empire Pipe Line Co. of Texas made 70 percent.[29]

RAILROADS

Outstanding among the monopolists of the nineteenth century, the railroads have been compelled to face severe competition in the twentieth. They are engaged, today, in a struggle for existence with trucks, busses, private automobiles, water carriers, airplanes, and pipe lines. But there is still some traffic in which the railroads enjoy a monopoly. There are shipments which can be made only by rail and which must move between points served by a single line. Even here the rates charged are under the supervision of the Interstate Commerce Commission. But the whole railway rate structure is such as to enable the roads to take advantage of their monopolistic position with relation to this portion of their traffic. Different commodities are hauled at different rates per ton mile. Goods which could be shipped over other carriers may get a lower rate. Those which must move over the rails may be required to pay a higher rate. Nor is the charge made for each mile that goods are hauled a uniform one. Communities which have access to other means of transportation, communities which are served by two or more carriers, may ship at lower rates. Communities which must depend upon a single carrier may be compelled to pay higher rates. With the permission of the Interstate Commerce Commission, the rates charged for a shorter haul may even exceed those charged for a longer haul in the same direction over the same line. The resulting rate structure is a necessary consequence of the characteristics of the transportation system as it now exists. The level of railway rates, as a whole, is probably not excessive. But the rate structure does demonstrate the fact that competitive rates will be established on those goods and between those points where competitive conditions obtain and that higher rates will be collected on

[26] Ibid., p. 7724.

[27] Commissioner of Corporations, Report on the Transportation of Petroleum (1906), pp. 29–30; Commissioner of Corporations, Report on the Petroleum Industry, Part I (1907), p. xx; Federal Trade Commission, Report on Pipe Line Transportation of Petroleum (1916), p. 18; Federal Trade Commission, Petroleum Industry: Prices, Profits, and Competition (1928), p. 41; Hearings on H. R. 9676 and H. R. 8572, Oil and Oil Pipe Lines, 73d Cong., 2d sess. (1934), pp. 220–222, 239–240; Hearings before the Temporary National Economic Committee, Part 14, pp. 7338, 7581–7586.

[28] Hearings before the Temporary National Economic Committee, Part 14–A, pp. 7727, 7797.

[29] Ibid., p. 7725.

those goods and between those points where the railroad stands in the position of a monopolist.

PULLMAN CARS

Since 1900, the Pullman Co., a wholly owned subsidiary of Pullman, Inc., has enjoyed a complete monopoly of the business of operating sleeping cars, parlor cars, and combination sleeping and parlor cars on the railroads of the United States. Until recent years the company rarely realized less than 8 percent on the valuation placed on its assets by the Interstate Commerce Commission. It made 9⅓ percent in 1926, 21⅓ percent in 1927, and 8⅔ percent in 1928.[30] During the 1920's and 1930's, however, Pullman lost traffic to the private automobile, the motorbus, the airplane, and the improved railway coach. In the 1930's, too, depression cut into its volume. An average Pullman car, with a capacity of 26 persons, carried an average of 14½ persons in 1923, 11⅔ persons in 1929, and only 8⅔ persons in 1932.[31] The company's profits shrank steadily from $32,000,000 in 1927 to $3,000,000 in 1931, turned into a deficit of $760,000 in 1932, another deficit of more than $1,000,000 in 1935. Business recovery produced profits of nearly $4,000,000 in 1936, more than $4,000,000 in 1937, and nearly $2,000,000 in 1938, but these profits gave the company a return, in the respective years, of only 2½, 3 and 1¼ percent on the $150,000,000 valuation of its assets.[32]

Pullman owns and operates more than 7,500 cars. At any one time 5,000 or more of these cars will be moving over 78 railroads on 110,000 miles of track. But the rest of them will be laid up in repair shops or standing in railroad yards awaiting a period of peak traffic. And the cars that are in motion will be operating at only a fraction of their full capacity. Pullman's revenues from accommodations sold in 1933 were $31,880,000 but the tariff value of the space which it did not sell was $51,826,000. Nine out of ten of the upper berths in motion during that year were empty.[33] Of the 26 places in the average Pullman car in 1937, 9 were occupied and 17 were idle.[34] Yet despite its loss of traffic to other carriers, its declining revenues, its large reserve of idle cars and its high percentage of unused capacity, Pullman made little effort to improve its technology until well into the thirties. Even today the character of the service offered on the great majority of its cars is identical with that provided two decades ago. And the company has shown no disposition to recover its former share of the market by lowering its rates. In 1937, when its rates were at the highest point in history, it applied to the Interstate Commerce Commission for a further increase of 10 percent which was granted in 1938.[35]

[30] Interstate Commerce Commission, Statistics of Railways in the United States.
[31] Fortune, February 1938, pp. 80–81.
[32] Interstate Commerce Commission, op. cit.
[33] Federal Coordinator of Transportation, Section of Transportation Service, Passenger Traffic Report (1935), p. 255.
[34] Interstate Commerce Commission, op. cit.
[35] Increased Pullman Fares and Charges, 1937, *Ex Parte No. 125,* 227 I. C. C. 644, June 30, 1938. In its report the Commission stated that: "Pullman stock outstanding aggregates $108,135,000, of which only $31,271,650 was issued for cash. Other stock aggregating $28,491,827 was issued for property or for other considerations, and $64,238,300 was issued in stock dividends. * * * In the 12-year period 1919 to 1931 applicant [Pullman Co.] declared dividends aggregating over $196,000,000 * * *" (p. 653). Commissioner Joseph B. Eastman, concurring, said: "Few, if any, public service companies in this country have been more generously treated by the public than the Pullman Co. In addition

Pullman's reluctance to adapt itself to changing conditions may be attributed largely to two facts. The first is the fact that the present level of rates is sufficiently high to enable the company to break even or, more usually, to make a profit while operating at but a fraction of full capacity. The second is the fact that the company's contractual arrangements with the railroads are such as to compel these carriers to assume a major part of the risks involved in fluctuations in the volume of Pullman traffic. In 1933 when its actual revenues were only 38 percent of its potential revenues the company just about broke even, its net income in that year standing at $8,500. In 1937, when its cars operated at less than 35 percent of full capacity, the company made more than $4,000,000. Pullman's contracts with the railroads are so drawn that the company collects some form of payment from the roads for the operation of each car that yields it less than a stated sum per annum, and makes some form of payment to the roads for the operation of each car that yields more than a stated sum or produces a profit.[36] The company is thus protected against loss when traffic declines and forced to share its profits when traffic increases. Its incentive to attract additional business either by increasing efficiency, cutting costs, and reducing rates, or by improving the quality of its service is weakened accordingly. In eight of the years in the decade from 1929 to 1939 when railroad followed railroad into bankruptcy and receivership, Pullman made a profit. Protected by a rate level that enabled it to break even at less than 40 percent of capacity and by contracts which shifted a large part of its risks to others the company was in a position to wait and hope for better days.

Pullman enjoys a marked advantage in negotiations with the railroads. Its contracts, running for long terms, can be canceled by either party 6 months before they expire. The roads, however, are not in a position to exercise their right of cancelation. Since Pullman is the only purveyor of sleeping car service, they cannot buy it elsewhere; and since a large part of this service involves continuous travel over connecting lines, they cannot undertake to provide it themselves without arranging a complicated series of intercompany contracts. Pullman, on the other hand, is free to cancel and is in a position, by threatening to withdraw its service from a road or to provide it with inferior service, to force the latter to accept its terms. The Department of Justice now charges, in a complaint filed in an antitrust suit on July 12, 1940, that the company has taken advantage of its position to impose onerous provisions on the roads, requiring them to purchase its services and equipment exclusively, preventing them from obtaining light-weight, high-speed, stream-lined equipment, supplying them with antiquated equipment, and forcing them to pay a large part of the costs involved in its modernization.[37]

to providing very liberal returns on the investment over a period of years, the public has, in substance and effect, itself supplied a very large part of the investment. If broad principles of equity could be applied to the situation before us, any increase in rates might well be denied. However, the decisions of the Supreme Court appear to indicate that the company is entitled to an opportunity to earn a reasonable return on the fair value of its property devoted to public use, regardless of the source of the funds with which that property was acquired" (p. 654).

[36] Conclusions of the Federal Coordinator of Transportation on Passenger Traffic, 1936, Appendix I, pp. 65–93, 107–117.

[37] *U. S.* v. *Pullman Company et al.*, District Court of the U. S., E. D. of Pa., Complaint, July 12, 1940.

Pullman, Inc., the parent company, also owns the Pullman Standard Car Manufacturing Co., virtually the sole producer of sleeping, parlor, and dining cars in the United States. The current complaint charges that the Pullman Co. has given this concern the exclusive right to manufacture the cars which it owns and operates and that it has refused to operate cars that have been made by other firms, thus giving Pullman Standard an advantage over its competitors in the manufacturing field. Since 1900, this concern and its predecessor, the Pullman Car & Manufacturing Co., has produced all but 15 of the sleeping cars made in the United States. The complaint asks the court to divorce the Pullman Co. and the Pullman Standard Co. and to enjoin their corporate and individual stockholders from owning shares in both concerns.[38]

TRANS-OCEANIC AVIATION

At the end of 1939, the Pan-American Airways System enjoyed a complete monopoly of trans-Atlantic and trans-Pacific commercial aviation and a near monopoly in the Caribbean. Only in the South American service did it face active competition. In the trans-Atlantic trade, however, it appeared likely that the system's monopoly would prove to be a temporary one. Imperial Airways, Ltd., of Great Britain, and Air France had permits to fly the North Atlantic which they were not then using. American Export Air Lines, Inc., had applied to the Civil Aeronautics Authority for a trans-Atlantic permit,[39] as had German, Italian, and Dutch air lines. Imperial Airways also had a permit, which it was not then exercising, to fly between New York and Bermuda. It seemed probable that competition on these routes would be restored in the course of time. On the trans-Pacific route, however, Pan-American's monopoly was unchallenged. The War and Navy Departments, impelled by considerations of national defense, would not permit a foreign air line to land in Hawaii, and it was considered impracticable to operate a trans-Pacific service without a stop on these islands. Unless another American company applies for permission to fly the Pacific, Pan-American's complete monopoly of this traffic would seem to be assured. At the end of 1939 no such application had been received.

LOCAL UTILITIES

Nearly every privately owned public utility corporation in the United States enjoys a complete monopoly in the local market which it serves. In almost every case the rates charged by such a corporation are subject to the control of a State regulatory commission. These rates are supposed to be set at levels that will allow the corporation to earn a fair return on a fair valuation of the property which it devotes to the public service. Where regulation is effective, its monopoly position will not enable a public utility company to realize a monopoly profit. Where regulation is inadequate, however, a monopoly profit may be obtained.

State control over utility rates has not, in general, been so effective as to prevent this development. State legislatures have handicapped

[38] Ibid.
[39] This permit was granted in July 1940.

the commissions by denying them complete jurisdiction over the utility field, by refusing to grant them adequate powers, by failing to make proper provision as to the qualifications, selection, compensation, and tenure of their personnel, and by declining to provide them with funds sufficient to enable them effectively to carry on their work. The courts have handicapped the regulatory bodies by handing down decisions permitting methods of property valuation which have inflated rate bases and afforded utility companies a return on sums far in excess of those actually invested in the business. The commissions themselves, instead of taking the initiative in rate cases, have adopted a passive role, waiting for actions to be brought before them. The prosecution of such cases, supported by the taxpayer, has been insufficiently financed; the defense, supported by the rate-payer, has had abundant funds at its disposal. Attorneys representing the public interest, poorly paid and with no assurance of tenure, have fought a losing battle against the high-priced counsel of the utility concerns.

Giant holding companies, in control of three-fourths of the electrical utility industry, have imposed upon their operating subsidiaries policies which have nullified governmental efforts to establish reasonable rates. These combinations were entirely outside the scope of public authority until the passage of the Public Utility Holding Company Act in 1935; many of them contrived to profit by this immunity. They sold to their subsidiaries various construction, engineering, management, and financing services, charging for them fees far in excess of the costs which they involved. They compelled their subsidiaries to exchange property, supplies, power, and securities at high prices. They borrowed money from these subsidiaries at a low rate of interest and loaned it to them at a high rate. By thus padding the operating expenses and the property valuations of the subsidiary companies, they forced the State commissions to permit them to charge higher rates. By writing up the assets of their subsidiaries and selling securities against the inflated values which resulted, they minimized their apparent percentage of profit. By spending large sums on propaganda activities, they persuaded consumers of utility services to acquiesce in an excessive level of rates.[40]

There is evidence that all these factors have combined to support rates higher than those required to produce a fair return on a fair value. Comparison of the charges made by privately owned electrical utility corporations with those established by publicly owned companies in the Ontario-Hydro-Electric system, by the Tennessee Valley Authority, and by large numbers of municipal plants in the United States, suggests that private utility rates have been so high as to yield a considerable element of monopoly profit.[41] Many operating companies have obtained a return well above the 7 percent usually accepted by legislatures and the courts as adequate. A legislative commission, examining 75 electrical properties in New York State in 1928, found 56 of them realizing more than 8 percent on the undepreciated value of their capital investment, 34 of them more than 10

[40] Federal Trade Commission, Utility Corporations, 70th Cong., 1st sess., Senate Doc. No. 92, pt. 72 A, passim.

[41] William E. Mosher and others, Electrical Utilities (New York, 1929), ch. 9; Stephen Raushenbush, The Power Fight (New York, 1928), ch. 7; Carl D. Thompson, Confessions of the Power Trust (New York, 1932), ch. 21; Bernhard Ostrolenk, Electricity: For Use or Profit? (New York, 1936), ch. 5; Federal Power Commission, Electric Rate Survey, Rate Series, 1935–39.

percent, 15 more than 15 percent, 10 more than 20 percent, and 1 more than 30 percent.[42] Another legislative committee, examining 53 gas and electric companies in Pennsylvania in 1929, found 40 of them realizing more than the legal 7 percent on their own valuation of their property, 18 of them more than 14 percent, 11 more than 21 percent, 6 more than 28 percent, 4 more than 35 percent, and 1 of them nearly 70 percent, 10 times the fair rate of return.[43] The Federal Trade Commission, examining 36 gas and electric companies in various parts of the United States, found 22 of them realizing more than 25 percent on actual investment in some year between 1922 and 1931, 17 of them more than 33 percent, 12 more than 50 percent, 1 of them 128 percent, a second 278 percent, and a third 435 percent.[44] A few holding companies, siphoning off operating company revenues and pyramiding their dividends through the holding company structure did even better during the 1920's, obtaining rates of return that reached well nigh astronomical proportions.

BERYLLIUM

Beryllium is an element which can be combined with copper, nickel, or certain other metals to produce alloys combining extraordinary tensile strength, hardness, lightness, and conductivity, capable of resisting erosion and withstanding severe and prolonged vibration. Its possible applications in industry and in the national defense—notably in aviation—are many. The ores in which it occurs in combination with other metals are abundant. The technology employed in its extraction and utilization is a development of the last decade. The industry is still in its infancy. But in beryllium there may already be seen a monopoly in the making.

The European patents covering the equipment and the processes involved in extracting beryllium from its ores, in producing alloys, and in employing these alloys in industry, were taken out by the German firm of Siemens & Halske. This firm subsequently turned over to the Deutsche Gold-und-Silber-Scheideanstalt, known for short as Degussa, the business of producing beryllium metal, retaining for itself the business of producing the alloys. Between 1929 and 1931, Siemens & Halske assigned the American rights to its patents to the Metal & Thermit Corporation of New York, which undertook, for a consideration of $10,000, to prosecute applications in the United States Patent Office. Metal & Thermit did not itself take title to these paents, nor did it take out a license under them which would have permitted it to engage in the production of beryllium. It merely obtained and held the American rights, reassigning them to Siemens & Halske in 1935. The Beryllium Corporation, an American concern organized in 1929, had meantime undertaken to enter the industry. This company approached both Metal & Thermit and Siemens & Halske in an effort to obtain a license which would permit it to produce beryllium in the United States. For some years it met with scant

[42] State of New York, Legislative Document, 1930, No. 75, Report of the Commission on Revision of the Public Service Commissions Law, p. 288.

[43] Commonwealth of Pennsylvania, One Hundred and Twenty-ninth General Assembly, Session 1931, House of Representatives, Appendix to the Legislative Journal, Proceedings of and the Testimony Taken Before the Committee of the House Appointed Under the Provisions of House Resolution No. 10, p. 6979.

[44] Thompson, op. cit., ch. 22.

success. According to the testimony of its president, Andrew J. Gahagan:[45]

> * * * I couldn't find out whether the Metal Thermit Co. owned the patents or whether they didn't own them, or whether Siemens were going into the beryllium business in the United States or whether they were not going into the business.

The corporation finally did conclude an agreement with Siemens & Halske in 1934. Until that year, however, the German patents operated to block the establishment of the industry in this country.

The 1934 agreement contained a cross-licensing arrangement which gave to the Beryllium Corporation the exclusive right to manufacture under existing and subsequent Siemens patents in the United States and to Siemens & Halske a similar right under the corporation's patents in Europe. The corporation's royalty payments to Siemens were to be used, at the outset, to discharge the latter's obligation to Metal & Thermit. The agreement provided not only for a sharing of patent rights but also for a division of world markets. According to its terms:[46]

> The parties hereto agree that the entire continent of America is the exclusive territory of [the Beryllium Corporation] and that the entire continent of Europe is the exclusive territory of [Siemens & Halske] * * *. Each of the parties hereto agrees to refrain from producing or making sales directly or indirectly into the exclusive territory of the other, and, throughout the world from assisting third parties in producing beryllium except subject to the provisions of this agreement. * * *

This arrangement was subsequently modified under the pressure of English interests to give the American concern the right to sell beryllium in the British Isles. The agreement was to run for an initial term of 10 years and was subject to renewal. In purpose and effect it divided the earth between the contracting parties on the basis of patent control.

There is evidence that the German producers have manifested a continuing interest in the establishment of a beryllium monopoly in the United States. The P. R. Mallory Co., of Indianapolis, is in a position to engage in the fabrication of a variety of beryllium products in competition with the Beryllium Corporation. This concern and its British subsidiary, Mallory Metallurgical Products, Ltd., sought to obtain licenses under the Siemens patents which would grant them the exclusive right to employ beryllium alloys in the manufacture of electric welding machinery. When the subsidiary approached Siemens & Halske, it was informed that no such right would be granted unless an agreement were reached which not only would require the British unit to purchase its supply of the alloy from Siemens, but also would bind the American unit to buy its supply of the alloy exclusively from the Beryllium Corporation, to buy materials containing beryllium only from concerns which had bought the metal from the Corporation, and to abstain from the fabrication of beryllium products in which the Corporation had an interest. German control of the supply and use of beryllium in England was thus employed to reenforce the position of the Beryllium Corporation in the United States.

[45] Hearings before the Temporary National Economic Committee, Part 5, p. 2038.
[46] Ibid., p. 2280.

The Brush Beryllium Co. of Cleveland, Ohio, was established in 1931 for the purpose of competing in the production of beryllium alloys. The firm operates under its own patents and under a license for one patent which is owned by a subsidiary of the Union Carbide & Carbon Corporation. It has proceeded on the principle that volume is to be obtained through a reduction in price. In 1936 the Beryllium Corporation was charging $30 per pound for contained beryllium metal in beryllium-copper master alloy. The Brush Co. cut the price to $23 and the corporation followed suit. In 1939 the Brush again cut the price to $15 and the corporation tardily followed. Repeated efforts have been made to persuade the Brush Co. to abandon this competition. In 1935 a spokesman for Degussa suggested two alternatives: a division of the industry, the Brush Co. to produce the metal and the Beryllium Corporation to produce the alloys, or a combination, the one concern to purchase the shares of the other. Of the advantages of some such arrangement, he wrote:[47]

I feel that beryllium and its alloys could be made an object, giving extensive profits to all concerned, saving tremendous expense to each and every one of us, and giving special benefit to all to make such thought worth while.

Again in 1938 a representative of the Siemens interests urged the desirability of abandoning price competition, asserting, according to Dr. Charles B. Sawyer, president of the Brush Co.[48]—

* * * that he had brought together five or six British companies, who were quite at loggerheads, and that this had resulted in raising their prices 30 percent with dividends regularly ever since.

When the Brush Co. resisted the lure of higher profits, the Beryllium Corporation appears to have made use of a stronger argument. According to Dr. Sawyer's testimony:[49]

Mr. Cox. Has Mr. Gahagan ever threatened to sue you or any of your customers for patent infringement?

Dr. Sawyer. Whether he has threatened to sue or whether he has threatened is a fine distinction. He has certainly threatened.

The Beryllium Corporation, however, has not as yet attempted fully to exploit the position which it occupies. It has permitted other firms freely to produce under its patents. It has collected no royalties. But when, as, and if the validity of its patents is legally established, the corporation may be expected to take a different line, as is evidenced by the testimony of its president:[50]

The Chairman. So that there is practically free use of these patents? * * *

Mr. Gahagan. There has been up to date, but we are not going to continue it; not free use; no. * * *

The Chairman. Do you wish the committee to understand that the Beryllium Corporation is not now enforcing its patent rights?

Mr. Gahagan. We haven't tried to yet.

The Chairman. But you intend to?

Mr. Gahagan. Yes, sir.

The Chairman. And if and when you do enforce those patent rights you will have practically complete control of the industry, is that correct?

Mr. Gahagan. That is what I hope to have.

The Chairman. And these competitors could not compete with you unless they had a license from you, assuming that the courts uphold the facts?

Mr. Gahagan. That is right.

[47] Ibid., p. 2071.
[48] Ibid., pp. 2081–2082.
[49] Ibid., p. 2136.
[50] Ibid., pp. 2049–2050.

Whether or not a monopoly is to be established in the beryllium industry in the United States rests, then, upon the decisions which are to be handed down by the courts in the pending patent litigation and upon the licensing policy which the Beryllium Corporation, if it is victorious in this litigation, may choose to pursue.

PAIRS OF FIRMS APPROACHING COMPLETE DUOPOLY IN THE AMERICAN MARKET

In each of the foregoing cases a single firm has monopolized a trade. There are other markets in which two establishments stand alone. Two companies provide all of the domestic telegraph service; two control all of the submarine cables between the United States and several foreign countries; two offer the only radio-telegraph service to many points abroad. Two companies, in each field, account for all, or nearly all, of the Nation's supply of bananas, of plate glass and safety glass, of bulbs, tubing and rod, and bases for electric lamps, of electric accounting machines, of railroad air brakes, of oxyacetylene, of sulfur, and certain chemicals. In many local markets, on a smaller scale, two petty enterprises share a trade. Under circumstances such as these, formal or informal understandings governing price and production are readily attained. Each firm of a pair controlling the whole of a supply is likely to act as if it were a monopolist. In their effect upon the market, duopoly and monopoly are substantially the same.

DOMESTIC TELEGRAPH SERVICE

Ten companies are engaged in the business of providing wire telegraph service between points within the United States. Eight of these concerns, most of them serving railroads or industrial establishments, confine their operation to limited areas; together they handle less than one-tenth of 1 percent of the messages transmitted through this medium. There are only two carriers which offer a Nation-wide, public-message, wire-telegraph service. These are the Western Union T egraph Co. and Postal Telegraph, Inc. In 1938, these companies owned four-fifths and one-fifth, respectively, of the telegraph offices in the United States, handled four-fifths and one-fifth of the messages transmitted, and collected four-fifths and one-fifth of the revenues derived from the domestic telegraph business.[51] The two companies, however, do not share every phase of the business or every section of the market in these proportions. Both concerns must compete with the telephone carriers in providing leased private wire, timed wire, and teletypewriter exchange services. Western Union has a virtual monopoly of the Nation-wide ticker service. It is the only company which sends public messages over its own lines into every State in the Union. It maintains the only telegraph offices in some 14,500 American communities. Postal Telegraph, on the other hand, maintains the only offices in some 750 other towns.[52] But both concerns are in a position to accept messages from, and deliver them to, any point in the United States. The situation which obtains in the public message

[51] Federal Communications Commission, Selected Financial and Operating Data From Annual Reports of Telegraph, Cable, and Radiotelegraph Carriers, Year Ended December 31, 1938 (mimeo.), sec. B, pp. 10–13.
[52] Fortune, November 1935, p. 90 ff.

department of the business over the country as a whole, therefore, is one of simple duopoly.

The rate charged for telegraph service depends upon the length of the message, the time of day at which it is transmitted, and the distance which it travels. But differences in rates are not closely adjusted to differences in the cost of rendering the service. Telegraph rates are largely a matter of tradition. The 10 word limit in the charge for a straight telegram was established in 1851. The rate map, according to which the charges for distance are arbitrarily computed, was adopted in 1875. Rate schedules have been modified in detail since the Federal Communications Commission was given jurisdiction over the telegraph carriers in 1934. But the general level of rates has not been altered in many years.

The profitability of the telegraph business depends upon the volume of the traffic which it carries. The companies could handle many times the present volume without enlarging the existing facilities. The business is one of increasing returns. It has produced profits during years of prosperity and suffered deficits during years of depression. In 1929, when traffic was at its peak, Western Union had a gross income of $145,000,000 and a net income of $15,000,000. In 1932, the company incurred a deficit of $830,000; by 1933 its gross income had fallen to a low of $82,000,000, a decline of 43 percent from the 1929 level. In 1929 Postal Telegraph had a gross of $38,000,000 and a net of $3,000,000; in 1932 it incurred a deficit of more than $2,000,000; by 1933 its gross had fallen to $26,000,000, a decline of 32 percent. Western Union realized a profit in 8 of the 10 years from 1929 through 1938. Postal Telegraph has not made a profit since 1930; the company went into receivership in 1935 and was reorganized in 1940.[53]

Western Union's preeminence may be traced in large part to its success in obtaining from the railroads contracts which have given it the exclusive right to use their rights of way for its poles and lines and their terminals and stations for its offices. These contracts had their origin in the middle of the nineteenth century, have been renewed periodically ever since, and now apply to 185 railroads, including virtually every class I railroad in the United States. Postal Telegraph, with only 12 such contracts, only 5 of them exclusive, has been compelled to string its wires along the public highways. The company has contested the validity of several of the Western Union contracts in the courts and has won a number of suits. But its effort thus to overcome its disadvantage has been costly and its progress has been slow. The Department of Justice entered into this situation on December 1, 1937, when it started suit against both companies under the Sherman Act in an effort to have their exclusive contracts declared invalid. If the Government should win these cases, Western Union would be deprived of the relative advantage which it has so long enjoyed.

Both telegraph companies have suffered from the competition of other types of carriers in the general field of rapid intercity communication. The share of this business carried by telegraph declined steadily from 100 percent in 1880 to 24.2 percent in 1938. The share carried by telephone rose from 5.6 percent in 1886 to 72.4 per-

[53] Moody's Public Utilities, 1932, 1938.

cent in 1938; that carried by air mail rose from 1 percent in 1930 to 3.4 percent in 1938.[54] The companies have attempted to meet this competition by placing an increasing portion of their business in classifications which are carried at lower rates, but their efforts have proved unavailing. The precarious position of the Postal Co. and the unfavorable prospects of both Postal and Western Union have led the Federal Communications Commission to propose consolidation of the two concerns. The Commission argues that the policy which recognizes the telephone business as one affected with a public interest and grants it a monopoly position subject to public regulation is equally applicable to the telegraph carriers. It would include in the proposed merger the present services of Western Union and Postal Telegraph, those of the minor wire telegraph carriers, and the leased wire and teletypewriter services now rendered by the telephone company. It would, however, preserve the independence of the wire-telegraph, radio-telegraph, and telephone industries and rely upon competition among them and with the air mail carriers to promote the efficient development of each type of service. The Commission recognizes the continued necessity of regulating telegraph rates and expresses the opinion that the general level of rates must be lowered and the whole rate structure readjusted if the consolidated telegraph company is to retain or increase its share of the business of rapid intercity communication.[55] The suits initiated by the Department of Justice are being continued pending congressional action on the Commission's proposal.

INTERNATIONAL COMMUNICATIONS

One or the other of the forms of telegraphic communication between the United States and many foreign countries is controlled by only two carriers. The International Telephone & Telegraph System and the Western Union Telegraph Co. share the bulk of the cable business. In 1938 the former handled 51 percent and the latter 45 percent of the messages transmitted through this medium.[56] An International subsidiary, as has been noted above, enjoys a monopoly of the trans-Pacific service. Western Union and the Commercial Cable Co., another International subsidiary, share some four-fifths of the trans-Atlantic business. Here a third concern, the French Telegraph Cable Co., also participates. In the Central and South American service, however, duopoly obtains, Western Union and All American Cables, Inc., a third International subsidiary, being the only interests in the field. The Cuban American Telephone & Telegraph Co., which operates cables between Miami and Habana, is owned jointly by A. T. & T. and I. T. & T. The Mexican Telegraph Co., which alone provides cable service to points in Mexico, is owned jointly by Western Union and I. T. & T.[57] R. C. A. Communications, Inc., and the Mackay Radio & Telegraph Co., a fourth International subsidiary, shared a duopoly of general commercial radiotelegraphic communications between the United States and 13 foreign coun-

[54] Federal Communications Commission, Report on the Telegraph Industry, submitted to the Senate Committee on Interstate and Foreign Commerce, Dec. 23, 1939 (mimeo.), p. 29.
[55] Ibid., pp. 53–57, 78–80, 88–96.
[56] Federal Communications Commission, Selected Financial and Operating Data From Annual Reports of Telegraph, Cable, and Radiotelegraph Carriers, year ended Dec. 31, 1938 (mimeo.), sec. B, p. 13.
[57] Federal Communications Commission, First Annual Report, pp. 44–46.

tries in 1937. R. C. A. C. and some one other company occupied a similar position in the service provided to 10 other points abroad. In only 9 instances was such overseas service offered by 3 or 4 concerns.[58] Between most points, of course, the cables and radiotelegraphy afford alternative methods of one-way communication. It must be noted, however, that the International System includes both cable and radiotelegraph carriers and that Western Union and R. C. A. Communications operate under an agreement which requires R. C. A. C. to transmit outgoing radio messages for Western Union and Western Union to deliver incoming messages for R. C. A. C. Though there are three large interests in the field, international telegraphic communication may, in general, be characterized as a duopoly, the bulk of the business being shared on the one hand by the International System, and on the other by Western Union and R. C. A. C.

In 1940, following its proposal that Western Union and Postal Telegraph be combined, the Federal Communications Commission recommended the establishment of a similar monopoly in the field of international communications.[59]

BANANAS

While bananas are grown in all moist tropical countries, more than nine-tenths of those produced in quantity for the export market come from Central and South America and the West Indies. The United States is the world's largest consumer of bananas, its annual imports amounting to more than half of the world's total.[60] For many years more than 99 percent of its supply has come from Latin America; 70 percent of it comes from Mexico, Honduras, Guatemala, and the Republic of Panama.[61] The bulk of this trade is in the hands of two concerns, the United Fruit Co. and the Standard Fruit & Steamship Co. The former handled 60 percent and the latter 30 percent of the bananas imported into the United States in 1936.[62]

The United Fruit Co., incorporated in New Jersey in 1899, is the giant of the industry. It owns or leases 3,500,000 acres of land. It operates a fleet of a hundred ships. It runs all but one of the banana-carrying railroad lines in Central America. It owns the Tropical Radio Telegraph Co., which offers the only telegraph service between the United States and Honduras. It operates docks and stores, hospitals and hotels, and occupies a dominant position in the economic life of the Caribbean.[63] The company's control both of the supply of bananas and of the means of transportation gives it a decided advantage over its competitors. It produces half of the fruit which it sells, and purchases the other half from private planters under contracts which cover their entire output, thus excluding its rivals from this source of supply.[64] The United is in a position to exact high railway rates of other shippers and to prevent other ships from loading bananas

[58] Federal Communications Commission, Third Annual Report, pp. 64–65.
[59] New York Times, February 25, 1940.
[60] Pan American Union, Commodities of Commerce Series, No. 2, The Story of the Banana, p. 14.
[61] Bureau of Foreign and Domestic Commerce, Bananas: United States in Foreign Trade in 1938 (mimeo.).
[62] Ibid.; Moody's Industrials, 1938.
[63] Charles D. Kepner, Jr., and Jay H. Soothill, The Banana Empire (New York, 1935), pp. 26, 178, 182; Fortune, March 1933, pp. 26ff.
[64] Kepner and Soothill, op. cit., pp. 27, 259.

by giving preference to its own ships at its docks. It is said to have chartered cargo space which it did not use on the boats of other lines for the purpose of preventing other shippers from reaching the market.[65] The Fruit Dispatch Co., a United subsidiary with 50 branch offices located throughout the United States, has complete facilities for the distribution of bananas in this country. Elders & Fyffes, Ltd., another subsidiary, distributes United bananas in Great Britain and on the continent of Europe.

United Fruit has absorbed a dozen competitors over a period of 40 years. Its only important remaining rival, the Standard, according to Kepner and Soothill, "appears to prefer to work with the United rather than to oppose it."[66] The Standard does not compete with the United in Colombia, Costa Rica, or Guatemala. The United does not compete with the Standard in Mexico, Cuba, or Haiti. Both companies operate in Honduras, Panama, Nicaragua, and Jamaica. In Honduras, however, each concern buys in its own area, neither one competing with the other in the purchase of fruit.[67]

It has been asserted that the United deliberately restricts the supply of bananas for the purpose of maintaining the price. "Sometimes," write Kepner and Soothill, "when the United Fruit Co. desires to limit the supply of fruit, it discards bananas which it has raised or purchased. Occasionally it cuts mature bananas on its own plantations and leaves them to rot in their native habitat; again, after purchasing bananas from private planters, it abandons them at trackside to the immense satisfaction of goats and buzzards; more frequently it rejects considerable quantities of fruit on arrival at the wharf; and at other times it heaves fruit overboard outside of northern ports * * *."[68] The Fruit Dispatch Co. takes orders from jobbers through its branch offices and controls the volume of United banana imports accordingly. A fifth of these imports is sold at auction at the docks; the rest is distributed by the company at the price which it sets. If the fruit cannot be sold, according to Fortune, "it is not given away to the hungry poor. Sometimes it is dumped into the ocean with a great big splash."[69] The company kept the retail price of bananas throughout the depression at figures that were close to predepression levels. As a result, imports into the United States fell from 65,000,000 bunches in 1929 to less than 40,000,000 in 1933.[70]

United Fruit's capital and surplus grew from $11,230,000 in 1900 to $205,940,000 in 1930. During this period it reinvested half of its earnings, declared two dividends in stock, and paid cash dividends in every year. The average annual income received by its stockholders amounted to 17 percent of the value of the original investment.[71] The average annual return on the company's net worth stood at 3.4 percent in the depression years of 1931 and 1932 and at more than 7 percent in the years from 1933 through 1939.[72]

[65] Ibid., pp. 74–75, 187, 311.
[66] Ibid., p. 133; see also pp. 293, 311, 341–342.
[67] Ibid., pp. 131–132.
[68] Ibid., p. 265.
[69] Fortune, March 1933, p. 126.
[70] Kepner and Soothill, op. cit., pp. 264, 352.
[71] Ibid., pp. 36–37.
[72] Moody's Industrials, 1938, 1940.

PLATE GLASS

The Pittsburgh Plate Glass Co. and the Libbey-Owens-Ford Glass Co. manufactured 95 percent of the plate glass produced in the United States in 1935. Only three other American concerns are equipped to make this product. The largest of these, however, is the Ford Motor Co. which produces only for its own use. The volume of sales made by the two remaining firms is comparatively insignificant.[73] The American industry is protected from foreign competition by customs duties which amounted, when measured on an ad valorem basis, to 87.8 percent in the years from 1930 to 1935.[74] The Belgians have been the only foreign producers to sell appreciable quantities in the United States. Imports from Belgium, which were 27.4 percent as large as domestic production in 1923, had fallen to 0.04 percent in 1934. They rose to only 0.2 percent in 1936 after the reciprocal trade agreement had cut specific duties by a third.[75] The position of the two major producers in the American market, therefore, approaches complete duopoly.

The demand for plate glass rose steadily with the growth of the automobile industry during the twenties. Automobile manufacturers have purchased more than 60 percent of the plate sold in recent years. They took 77 percent of the Nation's output in 1935. State laws requiring that new cars be equipped throughout with safety glass have given a new impetus to this demand, since laminated glass requires twice as much of the product in square feet as does ordinary plate. The industry's output in 1936 was larger than at any previous time in its history.[76]

Output per man-hour in plate glass manufacture doubled between 1899 and 1925 and again between 1925 and 1935.[77] Prices have been reduced substantially during the past 20 years.[78] But the wholesale price of plate, in sizes from 5 to 10 feet square, has stood unchanged for 3 years at a time. It fell only 5.2 percent from prosperity's peak in 1929 to depression's trough in 1933.[79] Evidence of noncompetitive behavior in the industry is afforded by the fact that the prices of smaller sizes, cut from larger sheets, are lower than those of equal quantities of uncut plates. The smaller pieces must compete with window glass; the larger ones are sold in a market where no such substitute exists.[80]

Pittsburgh Plate Glass has made money in every year of its corporate history except 1932. In that year it sustained a deficit of $60,000. The company received a net income of $19,000,000, making 27.8 percent on its investment in 1923, and cleared more than $18,000,000, making 17.1 percent again in 1937. It has doubled its capitalization by declaring stock dividends out of earnings and has paid cash dividends in every year since 1899. In 4 of the years from 1934 through 1939 it realized more than 10 percent on net worth, making more than $68,000,000 in the period as a whole.[81] Libbey-Owens-Ford made

[73] U. S. Tariff Commission, Flat Glass and Related Glass Products, Report No. 123, second series (1937), p. 24.
[74] Ibid., p. 5.
[75] Ibid., pp. 91, 98, 113.
[76] Ibid., pp. 12, 83, 107.
[77] Ibid., p. 96.
[78] Ibid., p. 111.
[79] Burns, op. cit., p. 224.
[80] Ibid., p. 276; Watkins, op. cit., p. 171; U. S. Tariff Commission, op. cit., p. 110.
[81] Fortune, January 1934, pp. 42 ff.; Moody's Industrials, 1938, 1940.

more than $8,000,000 in 1935 and in 1939 and more than $10,000,000 in 1936 and in 1937. Its net income stood at 10 percent of net worth in 1934 and 1938, at 14 percent in 1933, at 20 percent in 1939, at 23 percent in 1935, and at 28 percent in 1936 and 1937.[82]

ELECTRIC LAMPS

The electric lamp industry presents a complex picture of duopoly, monopoly, and control by a single firm, achieved through the ownership of patents and protected by international agreements. Two companies, the General Electric Co. and the Corning Glass Works, are the only American producers of the large glass bulbs that go into the manufacture of electric lamps. The same 2 companies are the only producers of glass tubing and rod for electric lamps. General Electric and the Westinghouse Electric & Manufacturing Co. are the sole domestic producers of metal bases for such lamps.[83] Twenty-nine firms, including these 2, participate in the manufacture of tungsten filament lamps. General Electric uses its own output of bulbs, tubing, and rod in its own assembly plants. Corning, therefore, is the only domestic concern to sell these products to the 28 other manufacturers. General Electric has a similar monopoly in the sale of domestic lamp bases to these concerns.[84] With its incorporation in 1892, this company acquired all of the Edison patents relating to incandescent lamps. "Since that time," says the United States Tariff Commission, "through the purchase and consolidation of numerous companies, through the purchase of patents, and through its own research organization, it has acquired most of the important patents covering electric lamps, their parts, and machinery and processes for making them."[85] General Electric and Corning, monopolistic sellers of parts for assembly, operate under cross-licensing agreements. Six assemblers, including Westinghouse, likewise operate under General Electric licenses. General Electric and these 6 licensees produce nine-tenths of the total domestic output of incandescent lamps; the 22 other assemblers share the remaining tenth.[86] From this complex of relationships, General Electric emerges as the dominant factor in the industry.

Licenses granted under the company's patents contain restrictive provisions which are designed to perpetuate its ascendancy. Corning's license to employ the inside frosting process in the manufacture of bulbs permits it to sell such bulbs only to General Electric's six lamp licensees.[87] Westinghouse "is licensed to manufacture and sell lamps under the Mazda trade mark, but the company agrees not to allow its selling agents more favorable terms or greater compensation than the General Electric Co. allows its agents, and it may not appoint as agents persons or companies of whom the General Electric Co. disapproves."[88] Westinghouse pays General Electric a royalty of 1 percent on lamp sales which do not exceed 25.4 percent of the combined lamp sales of the two concerns; it pays a royalty of 30 percent on sales made in excess of this share. "The prices, terms, and conditions of sales

[82] Moody's Industrials, 1940.
[83] U. S. Tariff Commission, Incandescent Electric Lamps, Report No. 133, second series (1939), p. 100.
[84] Ibid., pp. 15, 39–40.
[85] Ibid., p. 36.
[86] Ibid., p. 34.
[87] Ibid., pp. 15–16.
[88] Ibid., p. 36.

at which the Westinghouse Co. is entitled to sell lamps made under license of General Electric patents are fixed by the General Electric Co." [89] The five other licensed assemblers are prohibited from making or selling lamps for export. They pay a royalty of 3⅓ percent on lamp sales which do not exceed a certain percentage of General Electric sales; they are required to pay an additional royalty of 20 percent on sales made in excess of their stipulated shares. Although the licenses granted these concerns do not compel them to maintain prices, "the prices set by the General Electric Co. are generally closely followed." [90]

Bulbs and lamps manufactured abroad are excluded from the American market by international agreements. Large bulbs were once imported in substantial quantities, chiefly from the Netherlands. Within the last decade, however, international licensing arrangements have deprived domestic assemblers of this source of supply.[91] Dutch sales to the United States dropped from 12,833,691 bulbs in 1932 to 2,289,507 in 1933. Total bulb imports fell from 14,846,430 in 1929 to 686,241 in 1938.[92] Independent manufacturers now have virtually no choice but to buy their bulbs from Corning. The European lamp industry has been cartelized almost continuously since 1903. General Electric is not itself a member of this cartel, but it is closely connected with many of its members through stock ownership or licensing agreements or both. The company is financially interested in lamp factories in 10 foreign countries, including England, France, Germany, and the Netherlands.[93] Through its subsidiary, the International General Electric Co., it "has entered into numerous agreements with foreign companies which provide for the exchange of patent licenses and manufacturing information, and for the establishment of territorial limits to competition between the parties to the agreements." [94] In return for the licenses which it grants to foreign manufacturers, General Electric "receives from each of the companies an exclusive license to make and sell lamps in the United States under all patents owned or controlled by these companies." [95] As a consequence of these arrangements, foreign competitors, with the exception of the Japanese, are effectively barred from the American market for electric lamps. Japanese sales, too, are small when compared with domestic production. In 1938, Japanese producers sold 66,258,000 lamps worth $487,000 in the United States; in the same year American producers sold 738,700,000 lamps, worth $63,000,000.[96] Japanese competition, moreover, was confined in the main to the sale of miniature lamps of the type used in flashlights. Only 10,260,000 of the 66,258,000 lamps imported from Japan in 1938 entered the market for lamps sold for general lighting purposes.[97] In this field, the American producers have an almost complete monopoly of the domestic market.

The retail price of 25, 40, and 60 watt lamps in the United States is lower than the prices which obtain in all but 1 of 12 other important consuming countries. The exception is Japan, where the 60 watt lamp sells at less than half of the price which is charged in the United

[89] Ibid., p. 37.
[90] Ibid.
[91] Ibid., pp. 17, 20.
[92] Ibid., p. 17; cf., infra, p. 200.
[93] Ibid., p. 58.
[94] Ibid., p. 59.
[95] Ibid.
[96] Ibid., p. 7.
[97] Ibid., pp. 51–52.

States.[98] Between 1920 and 1930, output per man-hour in American assembly plants was multiplied by four [99] and the price of lamps was nearly cut in half. In the past decade, however, prices have been held steady, despite continued technological improvement, for considerable periods of time. The price of the common 40 watt lamp, for example, remained unchanged for 6 years, from January 1, 1929, to January 1, 1935. The prices of all sizes, from 10 to 1,500 watts, remained unchanged from January 1, 1930, to January 1, 1934.[1]

ELECTRIC ACCOUNTING MACHINES

Many of the operations involved in large scale accounting and statistical work are performed by electrically driven machines. These devices, based upon the original Hollerith tabulator, include card punching machines, verifiers, sorting machines, and accounting machines which compute, classify, and record all manner of data. Of all such machines manufactured in the United States, the International Business Machines Corporation controls 85 percent and Remington-Rand, Inc., the other 15 percent. Both concerns produce the tabulating cards that are used on their machines. The International Business Machines Corporation also manufactures time clocks, time stamps, time controls, fire alarm and school alarm systems, sound distribution systems, commercial scales, accounting scales, electric typewriters, and a variety of other devices. Altogether the company holds some 1,400 patents, takes out 300 new patents every year. But 74 percent of its revenues and an even larger share of its profits are derived from its business in electric accounting machines.[2]

The two companies retain title to their machines and lease them to users on 1-year contracts. They sell their cards outright. In 1938, the International Business Machines Corporation received a gross income of $25,600,000 from the rental of machines and $5,000,000 from the sale of cards. The latter business is said to be a highly profitable one.[3] Until recently the two concerns attempted to exclude other producers from the market for cards by attaching to their leases a provision which required the lessee either to purchase all of his tabulating cards at a fixed price from the lessor or to pay a higher rental for the use of his machine. At the same time they undertook to share the market by agreeing that each one would confine its sale of cards to its own lessees. This arrangement was the subject of an antitrust suit which resulted, in 1936, in a Supreme Court decree invalidating the tying clauses in the International Business Machines leases and enjoining their further enforcement. A consent decree, with similar provisions, was entered against Remington-Rand.[4]

The International Business Machines Corporation has constantly improved the quality of its machines, but it has never reduced the rental which it charges for their use. Its revenues have displayed remarkable stability through prosperity and depression. Profits rose steadily from $5,700,000, yielding 13 percent on net worth in 1933, to $9,100,000,

[98] Ibid., p. 49.
[99] Ibid., p. 29.
[1] Ibid., p. 47.
[2] Fortune, January 1940, pp. 36 ff.
[3] Ibid.
[4] The Federal Antitrust Laws (Washington, 1938), p. 246.

yielding 16 percent, in 1939. Net profits in recent years have run between 23 and 32 percent of sales and other revenues.[5]

AIR BRAKES

Two companies manufacture all of the railroad air brakes made in the United States. The Westinghouse Air Brake Co., by virtue of its patent rights, has occupied the commanding position in the industry ever since it was organized in 1869. It now makes three out of every four air brakes. The New York Air Brake Co. makes the fourth.[6] The industry is favored by the fact that its customers are compelled by law to purchase its product. The demand for air brakes normally fluctuates from year to year with changes in the volume of railway purchases of new rolling stock. But the requirements of the modernization program adopted by the railroads at the behest of the Interstate Commerce Commission are such that a substantial annual market is now assured. When an improved air brake was perfected by Westinghouse and New York engineers in 1933, the Commission directed the roads not only to employ this brake in the equipment of freight cars purchased in subsequent years but also to install it on all existing cars by the end of 1944. This order alone created a mandatory market for brakes for some 2,300,000 cars.[7] The railroads are thus obliged to purchase the product manufactured by these two concerns, but this obligation is accompanied by no sort of public control over the price which they may charge.

The Westinghouse Co. has paid cash dividends in every year of its history. It financed, entirely out of earnings, an expansion in its capitalization from $500,000 in 1869 to $50,000,000 in 1923.[8] The company obtained a net return of 13.3 percent on its net worth in 1929, suffered a deficit in only 1 year (1933) during the depression, made 11.9 percent again in 1936 and 13.7 percent in 1937.[9] The New York Co.'s record of earnings has been less favorable. It sustained losses in 4 depression years, made only 6 percent in 1936 and 7 percent in 1937.[10] This contrast may be explained, in part, by the relationship which exists between the two concerns. The companies operate under a cross-licensing agreement which provides for the interchange of royalty payments, but, according to Fortune, "it is believed that Westinghouse does much more of the collecting and much less of the paying, and that the royalty rate from New York to Westinghouse increases rapidly if New York's sales increase beyond a certain percentage of the total market."[11] It should be noted that Westinghouse also has large stock interests in several foreign air brake companies and that it owns the Union Switch & Signal Co., which has only one important competitor and itself produces more than half of the signaling equipment sold in the United States.[12]

[5] Fortune, op. cit.; Moody's Industrials, 1940.
[6] Fortune, March 1937, p. 115.
[7] Ibid., p. 118; Poor's Industrials, 1939.
[8] Fortune, op. cit., pp. 118–119.
[9] Moody's Industrials, 1938.
[10] Ibid.
[11] Fortune, op. cit., p. 184.
[12] Ibid., p. 116.

OXYACETYLENE

Two companies divide nine-tenths of the business of furnishing compressed oxygen and acetylene to industrial consumers who employ the oxyacetylene torch in the cutting and welding of metal. One of these companies, the Union Carbide & Carbon Corporation, formed by a merger in 1917, is said to derive two-fifths of its gross income from this business. The other, the Air Reduction Co., incorporated in 1915, is a specialist in the field. The nature of the industry is such that no competitor is likely to challenge the position occupied by these concerns. The tanks in which compressed oxygen and acetylene must be shipped are heavy; transportation charges are high in relation to the value of the products; manufacturing plants must therefore be located close to the major industrial markets. Union Carbide has 164 plants and 1,113 warehouses in the United States and Canada, a part of them being devoted to the production and distribution of oxyacetylene. Air Reduction, which acquired 35 independent firms between 1922 and 1937, has built up an organization of 129 plants and 535 warehouses. To duplicate these facilities by constructing plants in each of the major markets would require a newcomer to make an enormous capital outlay. The present contractual arrangements between the companies and their customers, moreover, would make it difficult, if not impossible, for him to break into the field. The existing duopoly appears to be secure.[13]

Relations between the two companies have been harmonious; neither one has attempted to increase its share of the market by initiating a price war. Prices have been profitable and earnings high. It was estimated in 1933 that 100 cubic feet of oxygen cost about 75 cents to make and retailed on the average at $1 and that 100 cubic feet of acetylene cost $1.30 and sold at $2.30. The rare gases drawn from air yielded even better margins, a liter of krypton costing $50 to make and selling at $250.[14] In the decade from 1928 through 1937 Union Carbide realized an average annual net income, from all of its operations, of 11.02 percent on its net worth, and Air Reduction realized an average annual net of 14.24 percent. Union Carbide's return ranged from 4.3 percent in 1932 to 17.3 percent in 1937, standing at 10 percent in 1938 and 13.1 percent in 1939; Air Reduction's fell from 20.3 percent in 1929 to 6.8 percent in 1932, rose to 20.9 percent in 1937, and stood at 10.5 percent in 1938 and 13.7 percent in 1939.[15]

SULFUR

Sulfuric acid, a product basic to many manufacturing operations, may be derived from sulfur or brimstone found in natural deposits, from pyrites, or from gases given off in the processing of copper, zinc, coal, lignite, coke, and petroleum. In the year 1937, 72 percent of the American supply was derived from brimstone, 18.9 percent from pyrites, and 9.1 percent from byproduct gases.[16] The portion of the supply derived from the two latter sources, however, was largely consumed by its producers in the course of their own industrial opera-

[13] Editors of Fortune, Understanding the Big Corporations (New York, 1934), ch. 6.
[14] Ibid.
[15] Moody's Industrials, 1938, 1940.
[16] Hearings before the Temporary National Economic Committee, Part 5, p. 2262.

tions; relatively little of it was offered for sale in the commercial market. The bulk of the sulfur which enters the American market (96 percent in 1937) comes from naturally occurring ores.[17] The Texas Gulf Sulphur Co. and the Freeport Sulphur Co., between them, own or lease virtually all of the workable deposits of brimstone in the United States, hold the patents covering the method by which sulfur is extracted from these deposits, and control the American rights to a Norwegian process by which sulfur may be extracted from pyrites. These two companies have produced 94 percent of the sulfur withdrawn from native deposits since 1924.[18] They produced 90 percent of the sulfur derived from all sources which was offered for sale in the American market in 1937.[19]

Texas Gulf and Freeport jointly own the Sulphur Export Corporation, through which they share, on a 50–50 basis, their foreign orders, a quarter of their total sales.[20] This corporation has an agreement with the Ufficio Per La Vendita Dello Zolfo Italiano, a sales office for the Italian interests, who are the only other producers of any importance, which allocates world markets down to the final ton, provides for the imposition of penalties when shipments are made in excess of the allotted shares, binds the contracting parties to resist expansion in the supply of manufactured sulfur, and stipulates that prices shall "be fixed from time to time * * * in such manner as best to serve their mutual interests." [21] Under its terms, the corporation exports 50 percent of the first 480,000 tons, 75 percent of the next 145,000 tons, and 90 percent of everything above 625,000 tons sold in any year outside of "the Kingdom of Italy, its dependencies and colonies, and North America, Cuba, the islands off the coast of Canada and the insular possession of the United States of America." [22] Although neither participant is explicitly excluded from the areas named, American sales to Italy and Italian sales to the United States, have, in fact, been negligible in quantity.[23] A supplementary memorandum, signed in 1934, fixed the prices at which sulfur might be delivered at every port in the world and provided that they should be "effective until changed by mutual agreement of the parties." [24] Agreements between the Sulphur Export Corporation and the Orkla Grube Aktiebolag, owners of the Norwegian patents, concluded in 1933 and 1934, gave Sulexco exclusive rights under these and future patents, fixed the quantity that Orkla might produce, forbade it to increase its productive capacity, confined it to the markets of Norway, Sweden, and Finland, and set the price at which it was permitted to sell.[25]

The two American companies have held the domestic price of sulfur at a figure which has varied only slightly, during prosperity and depression, for a period of 17 years.[26] In many of these years stocks above ground plus annual production have been far in excess of annual sales. In each of the years from 1925 to 1938 Free-

[17] Ibid., p. 2269.
[18] Ibid., p. 1992.
[19] Ibid., p. 2269.
[20] Ibid., p. 1992.
[21] Ibid., p. 2210.
[22] Ibid., p. 2209.
[23] Ibid., p. 2270.
[24] Ibid., p. 2212.
[25] R. H. Montgomery, The Brimstone Game (New York, 1940), ch. 9.
[26] Hearings before the Temporary National Economic Committee, Part 5, p. 1994.

port sold only 31 to 65 percent of its annual supply. In each of the years from 1930 to 1938 Texas Gulf sold only 23 to 63 percent of its supply. In 4 of the 8 years from 1931 to 1938 the two companies together sold only a third of the brimstone available; in the other 4 years they sold only half.[27] But at no time did the existence of surplus stocks bring about a competitive reduction in price. From 1926 to 1938 the two companies charged $18 a ton for sulfur which Freeport was producing at an average cost, exclusive of royalties, of $6.13 and Texas Gulf at an average cost of $5.64.[28] From 1919 to 1938 Freeport's net income averaged 23.08 percent of its gross income from sales; Texas Gulf's net averaged 56.9 percent of its gross.[29]

Such margins have been productive of handsome returns. Freeport's average annual profit on its investment in the years from 1919 to 1938, according to estimates made by the Federal Trade Commission, stood at 15.87 percent before certain deductions were made for property taxes, capital losses, and adjustment of depreciation reserves, and at 13.31 percent after these deductions were made.[30] The company's own estimate places the figure at 12.28 percent.[31] Freeport made $5,000,000 on an investment of $11,500,000 in 1929, a return in that year of 43.72 percent.[32] Over a period of 25 years, its dividends have yielded an average annual return of 24.75 percent on the ledger value of its stock.[33] The Texas Gulf Co., according to the Federal Trade Commission, received an average annual profit of 28.75 percent from 1919 to 1938 and made $13,000,000 on an investment of $17,500,000 in 1927, a return of 74.12 percent.[34] Over a period of 18 years, its dividends, on the basis of the original value of its stock, have amounted to 95.46 percent per year.[35]

MONOPOLY AND DUOPOLY IN OTHER MARKETS

There are still other markets in which one or two concerns possess all or almost all of a supply. Ninety-five percent of the heat-resisting glassware produced in the United States is manufactured and distributed by the Corning Glass Works.[36] Natural gas is delivered to many consuming areas by a single pipe-line system. The rates and services of pipe lines in intrastate commerce have long been regulated by State utilities commissions, but those of lines in interstate commerce were not subject to effective control until they were brought within the jurisdiction of the Federal Power Commission by the Federal Natural Gas Act of 1938.[37] About 50 percent of the American supply of borates, used in the production of borax and boric acid, has been provided since 1921 by the Pacific Coast Borax Co., an American affiliate of Borax Consolidated, Ltd., of Great Britain, another 40 per-

[27] Ibid., p. 2272.
[28] Ibid., p. 2204.
[29] Ibid., pp. 2245, 2252.
[30] Ibid., pp. 2249, 2274–2275.
[31] Ibid., p. 2260.
[32] Ibid., p. 2249.
[33] Montgomery, op. cit., p. 57.
[34] Hearings before the Temporary National Economic Committee, Part 5, p. 2242.
[35] Montgomery, op. cit., p. 64.
[36] *U. S. v. Hartford-Empire Company et al.*, District Court of the United States, Northern District of Ohio, Western Division, Complaint, December 11, 1939, p. 91.
[37] Cf. Federal Trade Commission Report on Natural Gas and Natural Gas Pipe Lines in Temporary National Economic Committee Monograph No. 36.

cent by the American Potash & Chemical Corporation.[38] All of the sodium nitrate sold in the United States in recent years has been supplied by the Chilean Nitrate Sales Corporation and the Barrett Co., a subsidiary of the Allied Chemical & Dye Corporation.[39] The United States Tariff Commission, in a report covering some 2,250 synthetic organic chemicals in 1938, listed only one producer for nearly 1,200 of these items and only two for more than 350.[40]

The total number of cases in which one or two firms control nine-tenths or more of the supply of a good or service in a Nation-wide market, while undoubtedly larger than that revealed by the preceding description of specific industries and products, is unknown. The most reliable source of information on concentration of production in manufacturing industries, the Biennial Census of Manufactures, gives no data on this subject. The census reports do not usually show any degree of concentration beyond the portion of an industry's output controlled by its four largest producers. In some cases even this information is withheld, since its disclosure might reveal the share controlled by specific firms. The Bureau of the Census will not make public the concentration index for an industry or a product if its largest producer controls 75 percent or more, or if its two largest producers control 90 percent or more of its output, or if the share of the output which is not controlled by the four largest producers is similarly concentrated in the hands of one or two concerns. Among the 275 industrial categories listed in the Census of Manufactures for 1935, there were 9 for which concentration data were withheld. These were: Billiard and pool tables, bowling alleys, etc.; china firing and decorating, not done in potteries; copper smelting and refining; essential oils; fuel briquettes; lead smelting and refining; locomotives, other than electric; tin and other foils, not including gold foil; and typewriters and parts.[41] Likewise, in a group of 1,807 products, nearly half of those covered by the census for 1937, there were 328 for which data were withheld.[42] In these cases, of course, production is highly concentrated and it is possible that one or two firms manufacture nine-tenths or more of the output of some of these industries or control nine-tenths or more of the supply of several of these products.

LOCAL MARKETS

There is little or no information available on the prevalence of situations approaching complete monopoly or duopoly in regional or local markets. The figures published by the census, showing only the share of the total national output of an industry that is controlled by its 4 largest firms, may conceal a far higher degree of concentration within the several markets in which its products are actually sold. In the case of common brick, for example, not more than 7 percent of the national output was produced by the 4 largest firms in 1937, but a survey of the data for 5 localities reveals that 63.3 percent of the output in the Philadelphia area was controlled by 4 of the 10 local firms, that

[38] Cf. Clifford L. James, Industrial Concentration and Tariffs, Temporary National Economic Committee Monograph No. 10, ch. 5.
[39] Federal Trade Commission, Complaint, Docket No. 3764 (1939).
[40] U. S. Tariff Commission, Report No. 136, Second Series, Synthetic Organic Chemicals: United States Production and Sales (1938), pp. 5–52.
[41] Cf. National Resources Committee, The Structure of the American Economy, Part 1, Basic Characteristics, pp. 248–263.
[42] Cf. Thorp and Crowder, op. cit., Part III.

production in the New York City, Los Angeles, and Washington, D. C., areas was so concentrated that the share controlled by the 4 largest firms had to be withheld under the census disclosure rule, and that all of the production in the San Francisco area was in the hands of 2 concerns.[43] Among planing mills, likewise, although the national index of concentration was only 4.6 percent, control over the supply of a number of products in the Chicago, Milwaukee, Kansas City, Los Angeles, and Seattle-Tacoma areas was so highly centralized that the local indices could not be disclosed.[44] In 1935, the 4 largest producers accounted for 48.9 percent of the national output of paving materials, 29.9 percent of the cement, 27.7 percent of the lime, 10.2 percent of the concrete products, and 9.5 percent of the marble, granite, slate, and other stone, but these goods are sold in regional markets between which there is little overlapping and within which a few concerns may control the bulk of the supply. At the same time, the 4 largest firms produced 37.6 percent of the national output of manufactured gas, 32.7 percent of the ice cream, 20.7 percent of the manufactured ice, and 18.2 percent of the bread and other bakery products, but these goods are sold almost exclusively in local markets where a far higher degree of concentration may obtain.[45] In these and other fields it is possible that one or two producers in many local areas control nine-tenths or more of the supply.

SMALL TOWN MARKETS

"There is a tendency," writes A. A. Berle, "to idealize the early nineteenth century and to assume that small business and the prices it charged were the result of competition. As far as I am able to see, there is little, if any, foundation for this. The village store, the village blacksmith, the village grist mill, were all monopolies. Until the advent of the automobile, they charged conventional or administered prices which were not elastic. The people of the village could not go many miles to the next town. In a large measure this is still true in small towns. Such competition as there has been, curiously enough, came from large scale enterprise; mail order houses, and later the chain stores. The theory that prices were adjusted by competition under the old small scale production in small towns, as far as I can see, simply never was generally true, despite some nostalgic reminiscences which are indulged in today."[46]

The development of transportation and communication in recent years has unquestionably reduced the isolation of local markets and has accordingly impaired the monopolistic position of the retail tradesman in the country town. But a few relatively isolated communities, with their petty monopolists, remain. In all local markets, moreover, there are trades whose character is such as to restrict the area within which competition may occur. Many small towns are served by only one or two bankers, butchers, plumbers, pharmacists, undertakers, hotels, garages, coal dealers, ice plants, and lumber yards. These enterprises may be tiny when compared with those that dominate an urban or a national market; the situations differ in degree but not in kind.

[43] Hearings before the Temporary National Economic Committee, Part 11, p. 5548.
[44] Ibid., pp. 5549–5551.
[45] National Resources Committee, op. cit., pp. 265–269.
[46] A. A. Berle, Jr., "Investigation of Business Organization and Practices," Plan Age. September 1938, p. 186.

CHAPTER IV

MONOPOLIZED MARKETS: THOSE IN WHICH A FEW FIRMS CONTROL THE WHOLE SUPPLY AND THOSE IN WHICH ONE OR A FEW FIRMS CONTROL A MAJOR PART OF THE SUPPLY

In each of the cases discussed in the preceding chapter, one or two corporations controlled nine-tenths or more of the supply of an important good or service in an American market. Such cases are comparatively rare, but they are not the only ones in which large establishments may dominate a trade. In some industries, a single firm, producing much less than nine-tenths of the total output, so far surpasses its rivals in resources and sales as to govern the market. In others, small numbers of enterprises, roughly comparable in size, each of them overtopping their smaller competitors, together command the field.

CONCENTRATION OF PRODUCTION

Among 1,807 products, representing nearly half, by number, and more than half, by value, of those included in the Census of Manufactures for 1937, there were 291, or more than one-sixth of those in the sample, in which the leading producer accounted for 50 to 75 percent of the total supply.[1] One company, in each field, in some year between 1930 and 1940, produced 40 percent of the Nation's output of industrial alcohol,[2] 40 percent of the corn products,[3] 41 percent of the farm machinery,[4] 50 percent of the towels,[5] 60 percent of the fruit jars,[6] 66 percent of the canned soup,[7] and 85 percent of the fire extinguishing apparatus and supplies.[8] One company, in 1932, was said to manufacture 65 percent of the cinema negative film, 75 percent of the cinema positive film, and 85 percent of the still film for amateurs.[9] The American Can Co., the American Car & Foundry Co., the American Smelting & Refining Co., the American Sugar Refining Co., the International Match Co., the Koppers Co., the National Biscuit Co., the National Lead Co., the Procter & Gamble Co., the Singer Manufacturing Co., and the Union Carbide & Carbon Corporation, among others appearing on a list of the 200 largest nonfinancial corporations, each with assets in excess of $90,000,000 in 1932, had no rivals on the list in their respective fields.[10]

[1] Thorp and Crowder, op. cit.
[2] Arthur F. Burns, The Decline of Competition (New York, 1936), p. 135.
[3] Fortune, September 1938, p. 56.
[4] Federal Trade Commission, Agricultural Implement and Machinery Industry, p. 1024.
[5] Idem, Agricultural Income Inquiry, Part I, p. 321.
[6] Hearings before the Temporary National Economic Committee, Part 2, p. 552.
[7] Fortune, November 1935, p. 69.
[8] Federal Trade Commission, Order, Docket 2352 (1935).
[9] Fortune, May 1932, p. 51.
[10] Nourse and Drury, op. cit., p. 219.

Two companies manufactured 70 percent of the heavier types of electrical equipment, 70 percent of the electric motors, and 75 percent of the watt-hour meters made in 1923 and produced 80 percent of the distribution and power transformers and 89 percent of the generators that were in use in 1925.[11] Two companies accounted for 63 percent of the farm machinery manufactured in 1936, producing more than 50 percent of the output of 13 different implements, 88 percent of the grain and rice binders, and 89 percent of the corn binders.[12] Two companies possessed 89 percent of the domestic capacity for the production of synthetic nitrogen in 1937.[13] Two companies, in each field, in some year during the thirties, provided 47 percent of the beef products,[14] 51 percent of the copper,[15] 56 percent of the glass containers,[16] 62 percent of the biscuits and crackers,[17] 63 percent of the ophthalmic lenses,[18] 64 percent of the tire cord fabric,[19] 70 percent of the milk bottles,[20] and 80 percent of the locomotives.[21]

Three companies, in each field, in some recent year, produced two-thirds of the national output of chemicals,[22] 68 percent of the lead,[23] 69 percent of the copper,[24] 70 percent of the cast-iron enamel ware and vitreous china ware,[25] 73 percent of the farm combines,[26] 74 percent of the biscuits and crackers,[27] 75 percent of the ophthalmic lenses, frames, and mountings,[28] 75 percent of the window glass,[29] 78 percent of the copper,[30] 79 percent of the calcined gypsum,[31] 80 percent of the cigarettes,[32] 85 percent of the fruit jars,[33] 85 percent of the cotton gauze, bandages, adhesives, sponges, pads, etc.,[34] 86 percent of the automobiles,[35] 87 percent of the gypsum board,[36] 90 percent of the tin cans,[37] 90 percent of the household cotton thread,[38] and 97 percent of the snuff.[39] Among 1,807 of the products covered by the Census of Manufactures in 1937, only three firms were reported as producing

[11] Federal Trade Commission, Supply of Electrical Equipment and Competitive Conditions, 70th Cong., 1st sess., S. Doc. 46 (1928), pp. 93, 109–110, 113, 120.
[12] Idem, Agricultural Implement and Machinery Industry, pp. 150–153, 1024.
[13] U. S. Tariff Commission, Chemical Nitrogen, Report No. 114, 2d series (1937), pp. 184, 210.
[14] Hearings before the Temporary National Economic Committee, Part 1, p. 137.
[15] Elliott and others, op. cit., pp. 551–552.
[16] Hearings before the Temporary National Economic Committee, Part 2, pp. 474, 536.
[17] Federal Trade Commission, Report to the President on Monopolistic Practices and Other Unwholesome Methods of Competition (typescript), 1939, p. 580.
[18] *U. S.* v. *American Optical Company, et al.*, District Court of the United States, Southern District of New York, No. 107–418, Indictment, May 28, 1940, p. 8.
[19] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 321.
[20] Hearings before the Temporary National Economic Committee, Part 2, p. 530.
[21] Fortune, December 1939, p. 162.
[22] Ibid., December 1937, p. 162.
[23] Elliott and others, op. cit., p. 679.
[24] Ibid., pp. 551–552.
[25] *U. S.* v. *Central Supply Association et al.*, District Court of the United States, Northern District of Ohio, Indictment, March 20, 1940, p. 17.
[26] Federal Trade Commission, Agricultural Implement and Machinery Industry, pp. 150–153.
[27] Idem, Agricultural Income Inquiry, Part 3, p. 41.
[28] *U. S.* v. *Optical Wholesalers National Association, Inc., et al.*, District Court of the United States, Southern District of New York, Indictment, May 28, 1940, p. 11.
[29] U. S. Tariff Commission, Flat Glass and Related Products, Report No. 123, Second Series (1937), pp. 24, 41.
[30] Verbatim Record of the Proceedings of the Temporary National Economic Committee, vol. 11, p. 67.
[31] Cf. infra, p. 162.
[32] Hearings before the Temporary National Economic Committee, Part 1, p. 137.
[33] *U. S.* v. *Hartford-Empire Company et al.*, District Court of the United States, Northern District of Ohio, Western Division, Complaint, December 11, 1939, p. 92.
[34] Federal Trade Commission, Complaint, Docket 3393 (1938).
[35] Hearings before the Temporary National Economic Committee, loc. cit.
[36] Cf. infra, pp. 161–163.
[37] Hearings before the Temporary National Economic Committee, Part 1, p. 137.
[38] U. S. Tariff Commission, Cotton Sewing Thread and Cotton for Handwork, Tariff Information Survey (1927), p. 15.
[39] Federal Trade Commission, Agricultural Income Inquiry, Part 1, p. 473.

each of 28, including boric acid, printed linoleum, tennis balls, three types of marine engines, and four varieties of machine tools.[40]

In 1935, four companies in each field mined 42 percent of the zinc, 63 percent of the asphalt, 64 percent of the iron ore, 78 percent of the copper, 80 percent of the gypsum, and 84 percent of the marble.[41] In the same year, four companies accounted for 66 percent of the slaughter of meat animals, killed 52 percent of the hogs, 67 percent of the cattle, 71 percent of the calves, and 85 percent of the sheep, lambs, and goats, and sold 43 percent of the pork, 52 percent of the lard, 58 percent of the beef, 59 percent of the cured pork, and 70 percent of the veal.[42] Among the 275 categories included in the Census of Manufactures for 1935, there were 54 in which the 4 largest firms produced more than two-thirds, by value, of the total supply. These industries are listed in the table which follows.[43]

Industries in which the 4 largest firms produced more than ⅔, by value, of the total output, in 1935

Industry	Percent produced by the 4 largest	Percent produced by the 8 largest
Typewriters and parts	(1)	99.3
Oils, essential	(1)	98.3
Chewing gum	92.0	97.3
Ammunition and related products	91.7	100.0
Cigarettes	89.7	99.4
China firing and decorating, not done in potteries	(1)	89.3
Combs and hair pins, other than metal and rubber	88.1	98.4
Linseed oil, cake and meal	87.9	97.2
Drug grinding	87.8	96.7
Motor vehicles, except motorcycles	87.3	94.2
Graphite, ground and refined	86.4	100.0
Files	85.8	94.9
Bluing	85.1	100.0
Safes and vaults	84.8	97.5
Writing ink	83.0	93.6
Explosives	82.0	93.1
Firearms	81.9	92.4
Rubber boots and shoes	81.8	100.0
Linoleum	81.6	100.0
Bone black, carbon black, and lamp black	81.0	92.1
Rubber tires and inner tubes	80.9	90.4
Tin cans and other tinware	80.8	85.6
Corn sirup, corn sugar, corn oil, and starch	79.2	95.0
Compressed and liquefied gases	79.2	87.0
Oleomargarine, not made in meat-packing establishments	79.1	96.0
Sewing machines and attachments	78.9	90.4
Photographic apparatus and materials and projection apparatus	77.9	84.9
Chemical fire extinguishers	77.1	87.3
Cork products	76.9	90.2
Gypsum products	76.1	86.4
Aluminum products	76.0	93.7
Gold leaf and foil	75.5	87.4
Rayon and allied products	74.3	90.2
Soda fountains and accessories	74.0	80.4
Soap	73.5	83.1
Agricultural implements	72.4	87.7
Electric and steam railroad cars	71.7	84.0
Fountain and stylographic pens; gold, steel, and brass pen points	70.4	82.8
Matches	70.3	91.3
Cane sugar refining	69.6	88.3
Motor vehicle bodies and parts	69.4	76.8
Shortenings, vegetable cooking oils, and salad oils	69.0	85.9
Beet sugar	68.8	89.4
Cereal preparations	68.1	82.2

See footnotes at end of table.

[40] Thorp and Crowder, op. cit., Part III, Appendix A.
[41] Hearings before the Temporary National Economic Committee, Part 1, p. 137; Part 11, p. 5512.
[42] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 198.
[43] National Resources Committee, The Structure of the American Economy, Part I, pp. 248–258, 262.

Industries in which the 4 largest firms produced more than ⅔, by value, of the total output, in 1935—Continued

Industry	Percent produced by the 4 largest	Percent produced by the 8 largest
Chocolate and cocoa products, except confectionery	67.8	77.5
Abrasive wheels, stones, paper, cloth, and related products	67.4	74.3
Surgical and orthopedic appliances and related products	67.3	75.1
Excelsior	67.0	76.4
Billiard and pool tables, bowling alleys, etc.	[1]	[1]
Fuel briquettes	[1]	[1]
Locomotives, other than electric	[1]	[1]
Copper smelting and refining	[1]	[1]
Lead smelting and refining	[1]	[1]
Tin and other foils, except gold foil	[1]	[1]

[1] Information withheld in order to avoid the approximate disclosure of data for individual enterprises. The figure cannot be lower than 65 and is probably much higher. In the case of typewriters, for instance, it is said that the 4 largest companies produce between 95 and 98 percent of the new machines. Cf. *U. S.* v. *Underwood Elliott Fisher Co. et al.*, District Court of the United States, Southern District of New York, Indictment, July 28, 1939, p. 7.

Since an industry, as defined by the census, may manufacture many different products and since any one product may be made by but a few of the concerns that are classified as belonging to the industry, the actual degree of concentration within the foregoing fields may be even higher than that which the figures reveal. In the study of 1,807 census products, previously cited, the Bureau of Foreign and Domestic Commerce found 37 in each of which 4 firms produced the whole supply.[44] Four concerns, in some recent year, have accounted for the entire output of inlaid linoleum, watt-hour meters, rubber combs, borax, epsom salt, citric acid, tartaric acid, oxalic acid, calcium carbide,[45] flake calcium chloride,[46] and corn binders,[47] and 4 have handled 99 percent of the potash sold in the United States.[48] Among the products in the Bureau's sample, there were 164, or 9 percent of the total, in which the share manufactured by the 4 largest firms was over 90 percent and 328 others, or 18 percent, in which this share was not disclosed. Thus it appears that somewhere between one-tenth and one-fourth of the products covered by the census are made in fields where 4 concerns controlled nine-tenths or more of the supply. There were 670 products, over 37 percent of those in the sample, in which the 4 leading companies were reported as producing more than 75 percent of the output or in which information was withheld because one firm produced more than 75 percent or two more than 90 percent, and there were 175 others, nearly 10 percent of those in the group, for which data were withheld in order to avoid disclosure of the share produced by the fifth and successive firms. It thus appears that two-fifths to one-half of the goods covered by the census are made in fields where 4 concerns controlled three-fourths or more of the supply. When products with an annual output valued at less than $10,000,000 are eliminated, there remain 121 products, valued at more than $10,000,000, in which it is certain that more than 75 percent, by value, of the total output was manufactured by 4 firms. These goods are listed in the table which is given below.[49]

[44] Thorp and Crowder, loc. cit.
[45] Ibid.
[46] Federal Trade Commission, Order, Docket 3519 (1938).
[47] Idem., Agricultural Implements and Machinery Industry, p. 151.
[48] *U. S.* v. *American Potash and Chemical Corporation, et al.*, District Court of the United States, Southern District of New York, Indictment, May 26, 1939, p. 6.
[49] Thorp and Crowder, loc. cit.

Products valued at more than $10,000,000 each, in whose manufacture the 4 largest producers controlled more than ¾ of the total output in 1937

Product	Number of producers	Percent produced by the 4 largest
Inlaid linoleum	4	100.0
Watt-hour meters, alternating current	4	100.0
Snuff	11	99.2
Refrigerator cabinets, domestic	11	98.6
Asbestos shingles	8	97.4
Machine-finished paper containing ground wood	11	96.4
Coal tar products; crudes	14	95.6
Refrigerating systems, complete without cabinets	15	95.4
Power transformers; 501 kw. and over	14	95.0
Lithopone	10	94.6
Hydrocarbon; acetylene	23	92.7
Tractors; "all purpose," wheel type, belt horsepower under 30, steel tires	10	92.0
Plug chewing tobacco	18	91.7
Oxygen	26	91.4
Typewriters; standard	8	91.2
Radio receiving tubes for replacement, alternating current, glass and metal	12	91.2
White lead in oil, pure	106	90.6
Tractors; "all purpose," wheel type, belt horsepower 30 and over, rubber tires	11	90.6
Aluminum ware, cast	14	90.5
Copper plates and sheets	17	90.5
Passenger cars and chassis	15	90.4
Corn starch	10	89.2
Milk bottles	12	89.2
Metal working files and rasps	14	89.2
Tin cans, vent-hole top	8	88.8
Cultivators; 2, 3, and 4, 5, and 6 tractor drawn or mounted	14	88.6
Aluminum ware, stamped	25	87.8
Distributor transformers, ½ to 500 kilowatts	24	87.8
Zinc oxides, Chinese white and zinc white	18	87.3
Scrap chewing tobacco	64	87.3
Steam turbines, other than marine	9	87.0
Carburetor engines, motor vehicle, other types	16	86.0
Steel strips and flats, hot rolled for cold rolling	14	86.0
Tractors; other than "all purpose," 30 and over, steel and rubber tires	11	85.4
Window glass	9	85.0
Cigarettes	32	84.8
Gypsum, neat plaster	23	84.7
Nickel alloys, plates, and sheets	13	84.3
A. C. synchronous timing motors, 1/20 horsepower and over, under 1 horsepower, capacitor type	26	84.1
Steel; rolled blooms and billets for forging	15	83.8
Adding machines	9	83.1
Rubber arctics and gaiters	12	82.9
Refined sugar, soft or brown	12	82.6
Steel, skelp	10	82.2
Rubber-soled canvas shoes	11	82.1
Wallboard except gypsum, rigid, cellular fiber	15	82.1
Aluminum ingots	24	81.7
Matches, strike anywhere	9	81.5
Wire and cable, paper insulated	12	81.3
Cotton woven chambrays and cheviots	19	81.0
Rubbers and footholds	16	80.7
Machine-made tumblers, goblets, and barware	8	80.0
Batteries, dry, other than 6 inch, 1½ volt	14	80.0
Rayon yarns by denier; 100 (88–112)	13	79.4
Motors, direct current, 1 horsepower to 200 horsepower	40	79.4
Partially refined oil sold for rerunning	36	79.2
Combines, harvester-thresher, 6 foot cut and wider	12	79.1
Steel, plates, universal	14	79.0
Brass and bronze tubing and pipe, seamless	18	78.9
Heating and cooking apparatus, kerosene	12	78.8
Truck and bus tires	25	78.8
Coal tar resins derived from phenol, and/or cresol	19	78.7
Rayon yarns by denier, 300 (250–374)	15	78.4
Radio receiving sets, beyond standard broadcast, socket power, $45 to $65	24	78.0
Turkish and terry-woven towels	26	77.7
Smoking tobacco	119	77.5
Tobacco and cheese cloth	21	77.2
Machine-glazed Kraft wrapping paper, other	23	76.9
Domestic refrigerators, 6 foot under 10 foot	25	76.8
Canned meats	24	76.5
Passenger car tires	26	76.5
Steel; semifinished rolled blooms, billets, and slag	37	76.5
Narrow-neck packers' ware	25	76.3
Steel; black for trimming	12	76.0
Granulated sugar	21	75.8
Woolen woven goods, other	24	75.6
A. C. synchronous timing motors; 1/20 horsepower and over, under 1 horsepower, split phase	29	75.5

Products valued at more than $10,000,000 each, in whose manufacture the 4 largest producers controlled more than ¾ of the total output in 1937—Con.

Product	Number of producers	Percent produced by the 4 largest
Passenger car, truck, and bus inner tubes	26	75.3
Commercial cars, trucks, and busses	82	75.3
Thermostats	54	75.1
Steel rails	5	(1)
Car and locomotive wheels, rolled and forged	5	(1)
Lead oxides; litharge	5	(1)
Beer cans	5	(1)
Corn and other sirups	6	(1)
Axles, rolled and forged	6	(1)
Corn sugar	7	(1)
Oxides, other	7	(1)
Steel; pierced billets, rounds, and blanks for seamless pipes and tubes	8	(1)
Electric household ranges, 2½ kilowatts or over	8	(1)
Steel; sheet and tin plate	9	(1)
Ignition cable sets or wire assemblies for internal combustion engines	9	(1)
Stainless steel plates and sheets	10	(1)
Films, except X-ray	10	(1)
Sensitized photographic paper	11	(1)
Paper: ground wood, printing	11	(1)
Beer bottles	11	(1)
Lighting glassware, including electric light bulbs	12	(1)
Cameras, including motion picture	13	(1)
Packing rings, electrodes; miscellaneous graphite and metal graphited specialties	13	(1)
Ferro-alloys, electric furnace	14	(1)
Steel; heavy web, 3-inch and over	14	(1)
Carburetor engines, motor vehicle, industrial stationary	16	(1)
Wool, meat-packing	18	(1)
Flat glass, other	18	(1)
Sanitary cans, including condensed milk cans	18	(1)
Carburetor engines, aircraft	19	(1)
Wallboard, except gypsum	25	(1)
Cash registers, etc	27	(1)
Storage batteries, other	28	(1)
Spark plugs	30	(1)
Power switch-boards and parts	31	(1)
Telephone and telegraph apparatus	31	(1)
Men's work shoes, wood or metal fastened	33	(1)
Canned soups	44	(1)
Aluminum products, other	61	(1)
Motor vehicle hardware, including locks	62	(1)
Sheet metal; culverts, flumes, irrigation pipe, etc	105	(1)
Metal davenports, sofas, day beds, studio couches, etc., upholstered	146	(1)
Mattresses, innerspring	525	(1)
Cartridges	(2)	(1)

[1] Information withheld in order to avoid the approximate disclosure of data for individual enterprises
[2] Data not available.

Among the 1,807 products in the sample for 1937, there were 382 in which 5 to 10 concerns accounted for the whole supply. Eight companies, in recent years, have produced and distributed 80 to 90 percent of the feature films, and produced, distributed, and exhibited 65 percent of all the motion pictures shown in the United States.[50] Nine companies have manufactured all the liquid chlorine made for industrial and commercial use.[51] Ten companies have supplied the entire domestic output of viscose rayon yarn.[52]

In the cement industry, where 75 companies operated 162 mills in 1938, the 5 largest produce nearly 40 percent of the total output, the next 6 produce 16 percent, and none of the others provides as much as 2 percent.[53] The leading firm in the industry, the Universal-Atlas

[50] Department of Justice, *U. S.* v. *Paramount Pictures, Inc., et al.*, Statement of Grounds for Action, July 20, 1938.
[51] Federal Trade Commission, Order, Docket 3317 (1938).
[52] Idem, Order, Docket 2161 (1937).
[53] Commodities in Industry—The 1940 Commodity Year Book (New York, 1940), p. 96; Federal Trade Commission, Cement Industry, 73d Cong., 1st sess., S. Doc. No. 71 (1933), p. 12.

Cement Co., a subsidiary of the United States Steel Corporation, was formed by merger in 1930. It accounted for 15 percent of the national output at that time. But its dominance is greater within the regional markets where cement is sold. The Universal and Atlas companies, before they were combined, made nearly half of the shipments into New Hampshire and Illinois; a third in Indiana, Minnesota, and Vermont; and a quarter in Pennsylvania, West Virginia, and Wisconsin.[54]

In the oil industry, between 1936 and 1938, 14 companies, among several thousand, owned 89 percent of the mileage of crude oil trunk pipe lines; 15 companies owned 87 percent of the deadweight tonnage of oil tankers; 16 owned 96 percent of the mileage of gasoline pipe lines; 18 made 80 percent of the domestic sales of gasoline; and 20 produced 52 percent of the crude, owned 57 percent of the mileage of gathering lines, 75 percent of the daily crude capacity, and 85 percent of the daily cracking capacity, made more than 82 percent of the runs to stills, produced nearly 84 percent of the gasoline, and held 90 percent of the stocks of gasoline, 93 percent of the stocks of lubricants, and more than 96 percent of the stocks of refinable crude.[55] An even higher degree of concentration obtains within the regional markets where the major companies refine and sell their gasoline. There is no market within which all 20 of these companies compete; in 16 States there are fewer than 10 of them to be found. The leading firm sells more than 20 percent of the gasoline consumed in each of 30 States, more than 25 percent in 15, more than 30 percent in 5, 40 percent in Wyoming, and 60 percent in Utah.[56]

In the production of steel, again, a few large firms are dominant. The operations of each of the larger companies cover several stages of the productive process. Integrated enterprises possess about 90 percent of the Nation's pig iron capacity, 90 percent of the steel ingot capacity, and 85 percent of the capacity for hot rolled steel.[57] Ten companies owned 88 percent of the industry's assets in 1937; four companies owned more than 66 percent; two companies owned 55 percent. The United States Steel Corporation, with 40 percent, was two and one-half times as large as its closest rival, the Bethlehem Steel Corporation, and Bethlehem was nearly twice as large as the third concern, the Republic Steel Corporation, which, in turn, had assets exceeding the aggregate investment of all but 6 of the remaining firms.[58] Productive capacity, in the case of the most important products, is similarly concentrated. Of the capacity to produce steel ingots, United States Steel has 35 percent, Bethlehem 14 percent, and Republic 9 percent, the remainder being held by seven other companies no one of which has more than 5 percent. Of the capacity for hot rolled products, United States Steel has 31 percent, Bethlehem 13 percent, and Republic 9 percent, the remainder being divided among seven companies, no one of which has more than 6 percent.[59] Any one of these firms may have a larger share within the regions where it sells. While United States Steel has but a third and Bethle-

[54] Federal Trade Commission, Price Bases Inquiry, 1932, p. 95.
[55] Hearings before the Temporary National Economic Committee, Part 14, p. 7103.
[56] Ibid., Part 14–A, pp. 7812–7816.
[57] Hearings before the Temporary National Economic Committee, Part 18, p. 10403.
[58] Ibid., p. 10408.
[59] Ibid., p. 10409.

hem but a seventh of the the national total capacity, the two companies, according to the testimony of Mr. Grace, president of Bethlehem, before the T. N. E. C., sell in "distinctly different territory." He continued, "We operate very largely in the eastern territory. We are not important producers, say nothing like as important producers, in the central western territory as the corporation."[60] United States Steel is the giant of the industry. Its manufacturing capacity is "greater than that of all German producers combined. It is more than twice that of the entire British steel industry and more than twice that of all the French mills combined."[61] In addition to its facilities for producing pig iron, steel ingots, and all forms of finished and semifinished steel products, the corporation owned and operated through some 150 subsidiaries, in 1937, nearly 2,000 oil and natural gas wells, 89 iron ore mines, 79 coal mines, some 40 limestone, dolomite, cement rock, and clay quarries, a number of gypsum and fluorspar mines, 2 zinc mines, a manganese ore mine in Brazil, over 5,000 coking ovens, several water-supply systems with reservoirs, filtration plants, and pumping stations, over 100 ocean, lake, and river steamers, 500 barges and tugs, railroads, fire brick plants, and mills producing 12,000,000 barrels of cement.[62] By virtue of its tremendous size and its high degree of integration, the corporation is in a position to dominate the field.

Situations similar to those described above obtain in certain local markets where one or a few establishments control a trade. There is a high degree of concentration, for example, in the sale of common brick in New York, Philadelphia, Washington, San Francisco, and Los Angeles, and in the sale of doors, frames, sash, and other planing mill products in Chicago, Milwaukee, Kansas City, Seattle, and Tacoma, San Francisco, and Los Angeles.[63] Among 12,000 towns and cities in the United States in 1936, 75 percent had only one bank, 18 percent had only 2 banks, 6 percent had only 3, 4, or 5 banks, and only 1 percent had 6 or more. Half of the bankers faced no competition in their communities, a quarter of them had only one competitor, and only 5 percent of them had 5 or more.[64] In many cities the distribution of milk is in the hands of a few large firms. Data for 34 urban areas, in some year between 1929 and 1939, are presented in a table which appears on the following page. It will be noted that 2 distributors handled approximately half of the milk sold in New York, Chicago, Philadelphia, Detroit, Boston, Pittsburgh, San Francisco, Milwaukee, and Youngstown, two-thirds of that sold in Baltimore, and nine-tenths of that sold in Akron, and that one distributor handled more than a third of the milk sold in Pittsburgh, Milwaukee, and Salt Lake City, half of that sold in Baltimore, Washington, Akron, and Richmond, and two-thirds of that sold in Madison. Many of these local distributors are controlled, in turn, by one or the other of the two large holding companies that operate on a national scale. Subsidiaries of these concerns handled half or more than half of the milk distributed in 9 of the cities on the list.

[60] Ibid., Part 19, p. 10590.
[61] Ibid., Part 18, p. 10410.
[62] Ibid., p. 10393, chart 1.
[63] Ibid., Part 11, pp. 5548–5551.
[64] Lester V. Chandler, "Monopolistic Elements in Commercial Banking," Journal of Political Economy, vol. 46 (1938), pp. 1–22, at p. 7.

Concentration in the distribution of milk in representative cities

City	Year	Percent distributed by the largest companies				Percent distributed by subsidiaries of—		
		Largest	Two largest	Three largest	Four largest	National Dairy Products	Borden's	Both
New York [1]	1938	25.7	49.8	55.0	57.3	24.1	25.7	49.8
Chicago [2]	1935	------	49.0	------	------	------	21.0	21.0
Philadelphia [1 3]	1937	24.2	45.9	57.2	64.3	24.2	------	24.2
Detroit [4]	1930	------	52.0	------	------	27.0	25.0	52.0
Cleveland [5]	1930	------	------	------	------	17.9	------	------
Baltimore [1]	1938	55.1	63.9	69.6	72.7	55.1	------	55.1
St. Louis [4 6]	1930	------	------	------	------	40.0	------	40.0
	1936	------	------	------	68.7	------	------	------
Boston [1]	1937	29.9	49.0	56.0	62.7	19.1	------	19.1
Pittsburgh [3 4]	1930	42.5	57.0	------	------	42.5	------	42.5
Washington [1]	1938	55.5	------	------	------	55.5	------	55.5
San Francisco [1]	1938	28.3	53.1	61.2	67.2	------	28.3	28.3
Milwaukee [1 3]	1937	36.6	59.2	71.3	79.1	22.6	36.6	59.2
Minneapolis [7]	1934	29.7	------	------	------	------	------	------
Louisville [1 3]	1937	30.1	39.9	46.4	52.2	30.1	------	30.1
Denver [4]	1930	30.0	------	------	------	------	------	------
Toledo [8]	1930	------	------	------	------	21.8	------	------
Columbus [1]	1930	------	------	------	------	------	48.2	48.2
Oakland and Berkeley [3]	1930	------	------	------	------	------	32.5	32.5
Akron [3]	1930	53.3	91.9	------	------	53.3	38.6	91.9
Richmond [4 6]	1930	59.0	------	------	------	------	------	------
	1935	------	------	89.9	------	------	------	------
Salt Lake City and Ogden [4]	1930	36.0	------	------	------	------	------	------
Youngstown [1]	1938	28.1	54.4	58.4	60.5	26.3	------	26.3
Grand Rapids [5]	1930	------	------	------	------	23.8	------	------
Hartford [3]	1937	------	------	------	------	28.8	------	28.8
New Haven [8]	1934	------	------	------	------	30.5	------	30.5
San Diego [6]	1935	------	------	63.0	------	------	------	------
Bridgeport [8]	1934	------	------	------	------	------	33.5	33.5
Wilmington [3]	1930	------	------	------	------	45.5	------	45.5
Peoria [5]	1930	------	------	------	------	27.1	------	------
Racine [9]	1937	------	------	72.0	------	------	------	------
Madison [3 9]	1930	65.3	------	------	------	------	65.3	65.3
	1937	------	------	91.0	------	------	------	------
Kenosha [9]	1937	------	------	76.0	------	------	------	------
Phoenix [6]	1935	------	------	84.4	------	------	------	------
Sheboygan [9]	1937	------	------	48.0	------	------	------	------

[1] Hearings before the Temporary National Economic Committee, Part 7, exhibit 370, pp. 3135 ff.
[2] Federal Trade Commission, Report on the Sale and Distribution of Milk and Milk Products, Chicago Sales Area (1936) p. 5.
[3] Hearings before the Temporary National Economic Committee, Part 7, exhibits 359, 360, pp. 3127-3128.
[4] Ibid., pp. 2763-2764.
[5] F. T. C., op. cit., New York Milk Sales Area, (1937), p. 88.
[6] E. W. Gaumnitz and O. M. Reed, Some Problems Involved in Establishing Milk Prices, U. S. Department of Agriculture, A. A. A., Marketing Information Series, DM-2 (1937) p. 41.
[7] F. T. C., op. cit., Twin City Sales Area (1936) p. 11.
[8] Idem., Summary Report on Conditions with Respect to the Sale and Distribution of Milk and Dairy Products (1937) passim.
[9] Froker, Colebank, and Hoffman, Large-Scale Organization in the Dairy Industry, U. S. Department of Agriculture Circular No. 527 (1939) pp. 34-35.

PRICE LEADERSHIP

Where one or a few firms dominate a trade, price leadership is likely to obtain. If a single firm overtops its rivals, it may invariably take the initiative in raising or lowering the price. If two or more concerns are dominant, one may habitually serve as leader or more than one may lead, each in a different territory or each in turn. The smaller firms in such a field will follow the changes that are announced and sell at the prices that are set. They may be subjected to hidden pressure by the leader. They may fear annihilation in the warfare that would be invoked by an attempt to undercut him. They may seek to obtain larger profits by taking refuge under the price umbrella which he holds over the trade. They may merely find it

convenient to follow his lead. In any case, they abandon independence of judgment and adopt his prices as their own.

This procedure is illustrated by a passage from the hearings before the T. N. E. C. which deals with firms engaged in the fabrication of nonferrous alloys. The American Brass Co., a wholly owned subsidiary of the Anaconda Copper Co., does 25 percent of the business in this field. The Riverside Metal Co. does 1½ percent.[65] Exhibits were introduced which demonstrated that the larger concern kept the smaller one informed of actual and proposed changes in price,[66] and that announcements made by the one were invariably followed by the other, usually on the same day.[67] The president of the Riverside Co. was on the stand:[68]

Mr. Cox. Mr. Randall, would it be correct to say that there is a well crystallized practice of price leadership in the industry in which you are engaged?

Mr. RANDALL. I would say so.

Mr. Cox. And what company is the price leader?

Mr. RANDALL. I would say the American Brass Co. holds that position.

Mr. Cox. And your company follows the prices which are announced by the American Brass?

Mr. RANDALL. That is correct.

Mr. Cox. So that when they reduce the price you have to reduce it too. Is that correct?

Mr. RANDALL. Well, we don't have to, but we do.

Mr. Cox. And when they raise the price you raise the price?

Mr. RANDALL. That is correct.

* * * * * * *

Mr. Cox. I will put this question to you, Mr. Randall. Why didn't you reduce the price of the fabricated product following that decrease in the price of the master alloy?

Mr. RANDALL. Well, of course I would not make a reduction in the base prices of beryllium copper unless the American Brass made a price reduction in beryllium copper.

Mr. Cox. And the American Brass Co. made no reduction at that time.

Mr. RANDALL. If they did, we did, as indicated on that sheet.

Mr. Cox. Assuming you didn't make a price change then, the reason you didn't was because the American Brass Co. didn't.

Mr. RANDALL. That is correct.

Mr. ARNOLD. You exercise no individual judgment as to the price you charge for your product, then, in a situation?

Mr. RANDALL. Well, I think that is about what it amounts to; yes, sir.

* * * * * * *

Mr. RANDALL. Of course, as Mr. Cox first stated, the industry is one of price leadership, and a small company like ours, making less than 1½ percent of the total, we have to follow * * *.

Mr. ARNOLD. When you say you have to follow, you don't mean anybody told you you had to follow?

Mr. RANDALL. No, sir; I don't mean that at all.

Mr. ARNOLD. But you have a feeling that something might happen if you didn't.

Mr. RANDALL. I don't know what would happen.

Mr. Cox. You don't want to find out, do you?

This arrangement was apparently acceptable to American Brass. The general sales manager of this concern was questioned concerning a letter in which he referred to Mr. Randall as "a satisfactory competitor":[69]

Mr. Cox. Can you tell us what you mean by a satisfactory competitor?

Mr. COE. I believe he carries on his business on a very high ethical plane. [Laught r.]

[65] Hearings before the Temporary National Economic Committee, Pt. 5, p. 2091.
[66] Ibid., pp. 2099–2115.
[67] Ibid., pp. 2284, 2287–2288.
[68] Ibid., pp. 2085–2087.
[69] Ibid., p. 2115.

Prices established through leadership are not effectively competitive. The leader, controlling a substantial portion of the output of the trade, estimates the sales revenues and the production costs incident to the quantities salable at various prices and produces the amount, and sells at the figure, that is calculated to yield him the largest net return. In short, he behaves as a monopolist. When other sellers adopt the same figure, they offer buyers no real alternative. Leader and followers alike exact a monopoly price.

Prices thus established may be rigidly maintained over long periods of time. In general, they are likely to be higher than those that could prevail under active competition. They are sometimes productive of high profits, but they are not invariably so. In many cases they temporarily afford a return so large that additional firms are encouraged to enter the field. The business obtainable at the fixed price is shared by an increasing number of participants. The price leader gets a declining percentage of the trade. Idle capacity piles up, to be carried at heavy cost. Monopoly pricing persists, but monopoly profits are not secured. Leadership serves but to forestall the competitive struggle that would otherwise obtain.

Evidence concerning the occurrence of price leadership up to 1936 is summarized by Professor Burns.[70] Before 1920, the Philadelphia & Reading Co. served as the leader in the sale of anthracite coal,[71] the American Can Co. in the sale of packer cans,[72] the Corn Products Refining Co. in the sale of corn products,[73] the American Agricultural Chemical Co. and the Virginia-Carolina Chemical Co. in the sale of fertilizer,[74] and the Alaska Packers Association in the sale of canned salmon.[75] During 1928 and 1929 the United States Industrial Alcohol Co. took the lead in pricing industrial alcohol.[76] There is more recent evidence of leadership in the sale of steel, cement, agricultural implements, gasoline, nonferrous metals, newsprint paper, glass containers, biscuits and crackers, and in the purchase of crude petroleum.

STEEL

The character of the costs incurred in producing steel and the nature of the demand for the product combine to create resistance to any modification of its price. The industry requires heavy capital investments and involves high fixed charges. A modern blast furnace necessitates an outlay of some $5,000,000, a continuous strip mill $10,000,000 to $20,000.000; a single plant may cost upward of $60,000,000. As a consequence, fixed charges tempt the operator to reduce prices in order that he may fully utilize capacity. The costs involved in making different kinds of steel are joint; those incurred in the production of one variety cannot be separated from those incurred in producing another. This fact, too, encourages the operator to increase the output of a particular product by cutting its price. These

[70] Burns, op. cit., pp. 77–140.
[71] Ibid., pp. 118-129.
[72] Ibid., pp. 129–132.
[73] Ibid., pp. 132–134. This company appears still to be the price leader. According to the Federal Trade Commission, "When respondent [Corn Products Refining Company] reduces the prices of corn products, its competitors conformably reduce the price on the said commodities, and when respondent advances the prices, competitors make similar advances in their prices."—Complaint, Docket 3633 (1938).
[74] Ibid., pp. 134–135.
[75] Ibid., p. 139.
[76] Ibid., pp. 135–136.

conditions, in the absence of counteracting forces, would doubtless lead to drastic price reductions whenever the industry failed to operate at full capacity. However, since the demand for steel is derived from the demand for commodities which are produced with steel equipment or which contain some element of fabricated steel, and since relatively small portions of the prices of such goods can be attributed to the price of steel, steel operators hold that the demand for their product is inelastic, i. e., that changes in price will not induce significant changes in the volume of their sales. While this belief has been questioned by many students of the industry, it none the less persists. Moreover, the durability of steel injects a speculative element into the demand. Buyers, anticipating a rise in price, may order ahead of their immediate needs, thus accumulating substantial inventories, actual or deliverable. At other times, anticipating a decline, they may delay their purchases. Steel prices are announced in advance of an effective date and orders are accepted for future delivery. Announcement of an increase may bring immediate orders, while announcement of a reduction may stop all current buying. It is not surprising that the combination of these factors has created within the industry a strong antipathy to any change in price.

The price paid by the purchaser of steel includes two elements: A base price at a basing point and freight to the point of delivery. The United States Steel Corporation has usually taken the lead in initiating the base prices of the great majority of steel products and the rest of the industry has followed. Proof of this leadership is found in repeated statements by the Federal Trade Commission,[77] in the evidence reviewed by Burns,[78] and in recent testimony from the industry itself. Mr. William A. Irvin, then president of United States Steel, told a committee of the Senate in 1936 that "we generally make the prices." The record continues:[79]

> The CHAIRMAN. You generally make the prices?
> Mr. IRVIN. Yes, sir; we generally make the prices unless some of the other members of the industry think that that price may be too high and they make the price.
> The CHAIRMAN. You lead off, then, with a price charged, either up or down, at Gary? Is that correct?
> Mr. IRVIN. Yes, sir.
> * * * * * * *
> The CHAIRMAN. Then the rest of them follow that?
> Mr. IRVIN. I think they do. That is, I say they generally do.

When Mr. Benjamin F. Fairless, who succeeded Mr. Irvin in the presidency of the corporation, was questioned before the T. N. E. C. in 1939 concerning changes in the "finished steel composite price index" during the preceding years, he willingly undertook to explain the considerations which dictated the announcement of new prices.[80] If his own company had not been primarily responsible for these changes, Mr. Fairless presumably would have disclaimed knowledge of the causes which motivated the announcements of other sellers, or at least he would have taken a different approach to the question.

[77] Cf. Brief on Pittsburgh Plus, pp. 167 ff.: Decisions, vol. 8, p. 32; Practices of the Steel Industry Under the Code, p. 61; Hearings before the Temporary National Economic Committee, pt. 5, pp. 1867–1870; An Analysis of the Basing Point System of Delivered Prices (mimeo., 1940).

[78] Burns, op. cit., pp. 77–93.

[79] Hearings before the Committee on Interstate Commerce, U. S. Senate, 74th Cong., 2d sess., on S. 4055, p. 595.

[80] Hearings before the Temporary National Economic Committee, Part 19, pp. 10486–10491.

These indications of the corporation's leadership are confirmed by the testimony of Mr. Eugene G. Grace, president of Bethlehem Steel, its nearest rival. According to Mr. Grace:[81]

* * * one of the principal factors which we have in that process of reaching decisions as to what we will do sales-wise as a rule has been announcement of the Steel Corporation from time to time periodically as to what their prices are to be.

And again:[82]

When we put out a schedule, what we call our official prices, they usually represent and are the same as our competitor has put on the market, and in most instances, as a general practice, not looking for a little difference here and there, as a general practice that pace is set, if that is a good word, by the Steel Corporation.

When the corporation reduced its prices in 1938, Bethlehem followed it down. Said Mr. Grace:[83]

It seems to me I was very glad then of the opportunity to follow the corporation's lead in the publishing of new base prices, which they did. I was glad to see that take place. I thought it was constructive and a good thing to do.

When the corporation raised its prices in 1936 and 1937, Bethlehem followed it up. According to the testimony:[84]

Mr. FELLER. Your policy was to also announce prices as high as those which had been announced.

Mr. GRACE. That is right. It was very encouraging to find them doing that.

Mr. FELLER. Then you follow them up and you follow them down.

Mr. GRACE. I would follow them up in that instance.

Mr. FELLER. Do you remember any instance in which you didn't follow them up?

Mr. GRACE. No; and I certainly remember no instances when we didn't follow them down.

Indeed, it appears from the record that Bethlehem has followed United States Steel so closely that it has announced base prices for certain products at Birmingham which were $3 per ton higher than those quoted at Pittsburgh, an arrangement which had no significance for Bethlehem beyond the fact that it appeared in the announcements made by the corporation.[85] Mr. Grace's testimony makes it clear that United States Steel has exercised its leadership in a manner which has been entirely acceptable to his concern:[86]

Mr. FELLER. Have you ever felt that the prices published by the corporation were too high?

Mr. GRACE. Never; and results, earnings in the industry, would seem to me to support that view.

In pricing tin plate, the Carnegie-Illinois Steel Corporation, a subsidiary of United States Steel, takes the lead. This company sells large quantities of plate to the American Can Co., the principal producer of tin cans. Once each year negotiations between this one seller and this one buyer establish a price which not only prevails for the ensuing transactions between the two concerns and between Carnegie-Illinois and its other customers, but also is published in trade journals and becomes "the" price for tin plate which is followed by other producers.[87] American Can's contracts with these producers bind both

[81] Ibid., p. 10586.
[82] Ibid., p. 10602.
[83] Ibid., p. 10592.
[84] Ibid., p. 10603.
[85] Ibid., p. 10604.
[86] Ibid., p. 10603.
[87] Ibid., Part 19, p. 10625, Part 20, pp. 10759, 10794–107

parties to accept this price. Its long-term contracts with packers provide that the price of cans will be raised and lowered, in accordance with a prescribed formula, as Carnegie-Illinois announces changes in the price of plate. As a result, the corporation, in effect, determines the price of a commodity which it does not produce. This method of pricing tin plate and tin cans has existed for more than 25 years.[88] The importance of these prices is evident from the fact that the cost of the can constitutes 30 to 40 percent of the price of a can of tomatoes, 25 to 40 percent of the price of a can of corn, and 22 to 38 percent of the price of a can of peas.[89]

While United States Steel generally takes the lead in pricing steel, it appears that leadership in announcing the prices of certain special products is assumed by other firms. For instance, in the case of a product referred to as "18 gage enameling iron for washing machines," developed and patented by the American Rolling Mill Co., Mr. Charles R. Hook, the president of that concern, testified as follows:[90]

Mr. O'Connell. When you were speaking of leadership, did you mean in the development or——

Mr. Hook. In the market of that particular grade of material.

Mr. O'Connell. Were you the price leader in the sale of that?

Mr. Hook. I think we have been for a number of years.

CEMENT

In the case of Portland cement, as in the case of steel, production requires large investments of capital, fixed charges are high, demand is largely influenced by factors other than price, sales are made on a delivered basis, and the prices charged by different sellers display a striking uniformity. Although the published evidence of leadership is inconclusive, it was the opinion of the Federal Trade Commission, in 1933, that the 5 largest producers "are the leaders in the industry and are generally followed by the smaller companies in the matters of policy and price."[91]

AGRICULTURAL IMPLEMENTS

The International Harvester Co. made more than 41 percent and Deere & Co. more than 21 percent of the American sales of farm machinery in 1936.[92] Among 27 representative implements, International stood first in 20 and second in 1, Deere stood first in 1 and second in 18, and other companies stood first in 3 and second in 5.[93] The two largest producers dominate the industry.

For many years, International Harvester has taken the lead in announcing the prices of most varieties of farm machinery.[94] When the Federal Trade Commission last investigated the industry in 1937, "practically all manufacturers of competing lines stated that their price policy was guided by that of the International Harvester Co. and Deere & Co."[95] There was voluminous evidence to the effect that

[88] Ibid., Part 20, p. 10757 ff.
[89] Ibid., p. 10989.
[90] Ibid., Part 19, p. 10702.
[91] Federal Trade Commission, Cement Industry, p. xi; Cf. Federal Trade Commission, Price Bases Inquiry, pp. 88–89, 94; Burns, op cit., pp. 136–138.
[92] Federal Trade Commission, Agricultural Implement and Machinery Industry, p. 1024.
[93] Ibid., pp. 150–153.
[94] Federal Trade Commission, The High Prices of Farm Implements, 1920, pp. 17, 196, 224; Burns, op. cit., pp. 109–118.
[95] Federal Trade Commission, Agricultural Implement and Machinery Industry, p. 225.

these concerns promptly mailed announcements of prices and price changes to their competitors and regularly provided them with contract forms showing discount rates and terms of sale, with machine specifications, catalogs, and other descriptive literature.[96]

The Commission found that [97]—

with respect to the most important farm implements, the prices established by the leading manufacturers, especially International Harvester Co. and Deere & Co., constitute, insofar as the machines are of closely similar character, the price level which all manufacturers observe.

The small companies generally cannot sell their products for more than the established prices of widely accepted similar products of the large companies; nor do they feel free to sell for less than the price leaders for fear of starting a price war in which their large and financially stronger rivals would have all the advantage.

Lest their prices be out of line, it is the practice among lesser manufacturers to await the announcement of prices by the leading companies at the beginning of each season before announcing their own. Similarly, the price leadership of the large companies is followed in price changes made during selling seasons. In general, any price reductions are restricted to implements or machines for which the leaders of the industry have announced reductions.

In this industry, as in others, price leadership has made for price rigidity. None of the 30 types of farm machinery included in the Bureau of Labor Statistics index of wholesale prices showed more than 6 month-to-month changes in price in 95 chances from 1926 through 1933; 16 of them showed fewer than 4 changes; 4 of them changed only once; 3 of them did not change at all.[98] From 1929 to 1932, while the prices of agricultural commodities declined 54 percent and production fell off only 1 percent, the prices of farm machinery were reduced by only 14 percent and production dropped 84 percent.[99] As the Federal Trade Commission has observed: [1]

the industry sharply reduced production and employment and made only slight reductions in prices. Such price reductions as were made in 1932 and 1933 were in the form of temporary special discounts. The Commission does not believe that such conditions are characteristic of a competitive industry.

In the decade from 1927 through 1936, including 3 years of prosperity, 4 of depression, and 3 of recovery, International Harvester made an average annual net profit of 10.61 percent on its investment in the farm machinery business, and Deere made 11.91 percent. In 1927–30 and 1934–36, eliminating 1 year of low earnings and 2 years of deficits, International averaged 15.29 percent and Deere 19.60 percent. This record of profits, in the opinion of the Commission, is the result of a price policy which "could not have succeeded if conditions of free and open competition had prevailed in this industry." [2]

PETROLEUM AND GASOLINE

In the oil industry, the major integrated companies, usually the successors to the former Standard Oil Trust, have long taken the lead in announcing the prices, in their respective territories, that will be paid for crude petroleum and charged for gasoline. Evidence of their

[96] Ibid., pp. 227–230, 1026.
[97] Ibid., pp. 1025–1026.
[98] Nelson and Keim, op. cit., pp. 178–179.
[99] National Resources Committee, op. cit., p. 386.
[1] Federal Trade Commission, op. cit., p. 1026.
[2] Ibid., p. 1031.

leadership has been presented by the Federal Trade Commission in numerous reports [3] and has been summarized by Burns.[4] It appears again in the hearings before the Temporary National Economic Committee.

Several of the witnesses, when asked whether the major companies customarily led in posting the price that would be paid for crude, replied in the affirmative. Mr. J. Howard Pew, president of the Sun Oil Co., asserted that—

> the company who has the largest interest in the field, and who is most affected by competitive conditions, is very apt to be the leader in any price change.[5]

According to Mr. Louis J. Walsh, an independent refiner—

> In most fields there is usually one predominant buyer and he sets the price. We naturally are subject to go along with it.[6]

And in the opinion of Mr. Karl A. Crowley, who represented independent producers in Texas, the integrated companies—

> fix the price of oil; the price of the major company determines the market price of the oil, and that is all there is to it.[7]

Questions concerning leadership in the pricing of gasoline elicited a similar response. Mr. Paul E. Hadlick, secretary of the National Oil Marketers Association, testified that prices in New England and New York are initiated by the Socony-Vacuum Oil Co., in Pennsylvania and Delaware by the Atlantic Refining Co., in 5 States along the Atlantic coast by Standard Oil of New Jersey, in 5 Southeastern States by Standard of Kentucky, in 3 South Central States by Standard of Louisiana, in 11 Midwestern States by Standard of Indiana, in Arizona and Nevada and on the Pacific coast by Standard of California, in 6 Rocky Mountain States by the Continental Oil Co., in Oklahoma either by Continental or by Magnolia Oil Co., and in Texas either by Magnolia or by the Texas Corporation.[8] Mr. Sidney A. Swensrud, vice president of Standard of Ohio, told the committee that "the formal announcement of a change in the posted price, which obviously must be made by some company, has usually been made by the largest marketer in the particular territory." After pointing out that "there is no major marketing area in which all price changes are made by any so-called price leader," he concluded: "In summary, therefore, the so-called price leadership in the petroleum industry boils down to the fact that some company in each territory most of the time bears the onus of formally recognizing current conditions." [9] A contract, dated October 26, 1934, between the Pennzoil Co., a refiner, and the New Deal Oil Co. of Canton, Ohio, a wholesaler and retailer, which was introduced into the record, stipulated that the price for gasoline purchased by New Deal was to be based upon and move with the posted prices of Standard of Ohio.[10] A letter, dated March 28, 1935, from the Pennzoil Co. to its distributors in Ohio, read, in part: [11]

[3] The Price of Gasoline in 1915, pp. 5–6, 157–158; The Advance in the Prices of Petroleum Products (1920), p. 32; The Pacific Coast Petroleum Industry (1922), II, pp. 76–78, 127–129; Report on Gasoline Prices in 1924, Letter of Submittal; Prices, Profits, and Competition in the Petroleum Industry (1928), pp. 168, 195, 201, 229–230, 240.
[4] Burns, op. cit., pp. 93–109.
[5] Hearings before the Temporary National Economic Committee, Part 14, p. 7224.
[6] Ibid., p. 7352.
[7] Ibid., p. 7368.
[8] Ibid., Part 16, p. 8880.
[9] Ibid., Part 15, pp. 8700, 8702.
[10] Ibid., Part 16, pp. 9221 ff.
[11] Ibid., p. 9223.

Effective March 21, 1935, and until further notice, we are increasing the margin on Pennzip and Pennzip ethyl gasoline to our distributors in Ohio to 6 cents off the retail price for the State of Ohio as posted by the Standard Oil Co. of Ohio.

When Mr. George B. Ingram, president of the New Deal Oil Co., was questioned concerning this arrangement, he said: [12]

We are always notified approximately a day ahead of time of any price change taking effect by the Standard Oil Co. We are told that effective the next morning our price will be so-and-so, which will be the same price as the Standard Oil.

The Cities Service Oil Co., a subsidiary of the Cities Service Co., reported, in replying to a questionnaire, that it "determines prices by following the prices set by the market leader companies in the various areas in which it operates." [13] That Sun Oil likewise adheres to a follow-the-leader policy in pricing gasoline is suggested by the testimony of Mr. Pew: [14]

Mr. Cox. There have been occasions when you have resorted to price competition in order to get a position in the market.
Mr. Pew. I don't think we ever did much of that.
Mr. Berge. You don't think you engaged in price competition?
Mr. Pew. I don't think we ever tried. * * *

COPPER AND LEAD

The American Smelting & Refining Co. is by far the largest company to be engaged primarily in the smelting and refining of copper and lead. It is said to refine and sell a fourth of the world's output of copper and to control a third of the output of lead.[15] Closely associated with the Kennecott Copper Corporation and dominant in its special field, it is paralleled by integrated companies in which the mining and smelting functions are combined. It is reported, however, that other producers have customarily contracted to sell at prices equal to those announced by this concern.[16] According to Alex Skelton: [17]

The company's position enables it to take a long-range point of view—indeed its magnitude is such that it must—and its influence is habitually on the side of price sanity. It does not attempt to push the producers into bankruptcy on one hand, nor to antagonize consumers on the other, by price maneuvering. Consequently American Smelting & Refining has had a stabilizing influence on world as well as United States prices without establishing a rigid or uneconomic price structure; it is almost needless to say that the company could not otherwise have survived as long with undiminished prestige.

It is also needless to say that the company could not have pursued the policies described unless its competitors were content to accept its leadership.

NEWSPRINT PAPER

In the newsprint paper industry, Canada and the United States form a single economic unit. Many of the producers operate on both sides of the border and more than half of the American supply of newsprint comes in from the Dominion duty free. Markets are separated by transportation costs. The eastern seaboard is served by

[12] Ibid., p. 8964.
[13] Ibid., Part 14–A, p. 8124.
[14] Ibid., Part 14, p. 7243.
[15] Elliott, and others, op. cit., p. 615.
[16] Frank A. Fetter, The Masquerade of Monopoly (New York, 1931), p. 202; Burns, op. cit., p. 138.
[17] Chapter 10, "Lead," in Elliott, and others, op. cit., p. 616.

Maine, New York, and Canada, the Middle West by Michigan, Minnesota, and Canada, and the Far West by Oregon, Washington, and western Canada. Producers are few in number; the largest, in order of their size, are the International Paper Co., with properties in Canada and the United States, the Abitibi Power & Paper Co., of Canada, the Crown Zellerbach Corporation, which operates in the Pacific Northwest and in British Columbia, and the Great Northern Paper Co. in Maine, largest producer within the boundaries of the United States.[18]

The production of newsprint necessitates heavy investments in timberlands and machinery. Here, as elsewhere, the pressure of fixed charges carries with it the threat of ruinous competition in price. The demand for newsprint depends upon the volume of business activity, the quantity of advertising, and the size and circulation of newspapers. It is inelastic; competitive price reductions may alter the distribution of business among producers; they will not appreciably affect the total volume of sales. It is subject to violent fluctuations; rising as business improves, it encourages the industry to expand; falling in depression, it leaves a surplus of capacity. The price of newsprint falls with the demand. From its all-time high of $130 per ton in 1921, it fell to $70 in 1922; from $62 in 1928 and 1929 it dropped to $40 in 1934. Geared to peak production, the industry suffers deficits and is visited by bankruptcy as demand recedes. Each of these factors militates against the maintenance of active competition in the trade.

The bulk of the newsprint output is sold directly to a few large publishers in carload or even in trainload lots. Sales are made under long-term contracts, running from 1 to 10 years. Prices and quantities are determined periodically. Each new price is set for 6 months or a year, the seller agreeing to meet any reduction made by a competitor. The figures quoted by different producers under this arrangement have usually been identical, the prices thus established remaining unchanged for 2 years at a time.

When the Federal Trade Commission investigated the industry in 1929, it came to the conclusion that: "The International Paper Co. really makes the market price of newsprint paper for the entire United States except for Pacific Coast."[19] The International generally took the lead in announcing prices. Other producers subsequently adopted these prices as their own. Contracts signed by members of the trade called either for the delivery of newsprint at the average price charged by the three largest firms or at that announced by International alone. The sales manager of the Great Northern Paper Co. told one of the Commission's attorneys that:[20]

> * * * other manufacturers could not ask a higher price and would not accept a lower price than International made. If they asked a higher price, they ran the risk of losing their customers. If they accept a lower price they invite further reductions by the International.

In recent years, however, Great Northern has assumed the leadership. In July 1936 it announced its 1937 price of $42.50 a ton which was adopted by International after several weeks. In the fall of 1937, after International had announced a price of $50 for the first 6 months

[18] Fortune, December 1937, p. 113.
[19] Federal Trade Commission, Newsprint Paper Industry, 71st Cong., special session, S. Doc. No. 214 (1930), p. 81.
[20] Loc. cit.

of 1938, it set its own price at $48 for the first half and $50 for the second half of the latter year, figures which the other firms in the industry were compelled to match.[21]

The Crown Zellerbach Corporation and three other companies produce three-quarters of the newsprint sold in six Pacific Coast and Mountain States. An indictment returned against these four concerns in 1939 charged them with conspiring to suppress competition, allocate markets, and fix and maintain terms of sale.[22] If the facts alleged in the action are true, the price of newsprint in this area is a product of agreement rather than leadership.

GLASS CONTAINERS

The testimony on price leadership in the glass container industry is explicit. In response to a questionnaire sent him by the T. N. E. C., Mr. Walter H. McClure, vice president and general sales manager of the Hazel-Atlas Glass Co., submitted the following replies:[23]

> Hazel-Atlas Glass Co. initiates the prices covering wide-mouthed container ware, and the Hazel-Atlas price list for ware of this class constitutes the recognized market of the industry.
>
> We initiate our own prices for automatically made pressed tumblers and tableware.
>
> We initiate our own prices on opal ware for the domestic and drug trade.
>
> As to prices on proprietary and prescription ware, we adopt the schedules of the Owens-Illinois Glass Co., and make their prices ours.
>
> The same conditions as regards proprietary and prescription ware apply in connection with our liquor ware lists and our beer bottle lists. We are relatively small operators in these lines, and follow the market as established by leaders in these branches of the industry.
>
> As to fruit jars, for similar reasons we adopt the prices as published by the Ball Brothers Co. as our prices for fruit jars, jelly glasses, and fruit jar tops.

Milk bottle prices are initiated by the Thatcher Manufacturing Co. According to the testimony of Mr. William E. Levis, president of Owens-Illinois:[24]

> * * * Thatcher sets a price on milk bottles and Ball does on certain lines and we do on certain lines and Hazel does on certain lines. We can't ask any more than they ask as leaders in that line, and we are not going to take any less, because we think our goods are as good as theirs.

BISCUITS AND CRACKERS

The National Biscuit Co. sold nearly 42 percent and the Loose-Wiles Biscuit Co. about 20 percent of the biscuits and crackers produced by more than 330 American bakers in 1935.[25] The lines offered by the two concerns are practically identical; their prices are uniform; their discounts are the same. The United Biscuit Co., third in the industry, according to Fortune, "strings along with them in certain products, offers better terms in others. And the rest of the Nation's bakers, with a few local exceptions, sell goods that are uniformly cheaper * * *".[26] But the Federal Trade Commission re-

[21] Fortune, December 1937, p. 232.
[22] *U. S.* v. *Crown Zellerbach Corporation et al.*, District Court of the United States, Southern District of California, Southern Division, Indictment, July 12, 1939.
[23] Hearings before the Temporary National Economic Committee, Part 2, pp. 547–548.
[24] Ibid., p. 530.
[25] Federal Trade Commission, Agricultural Income Inquiry, Part III, p. 40.
[26] Fortune, August 1936, p. 110.

ported, in 1929, that these firms "must and do follow the lead set by the National Biscuit Co. and the Loose-Wiles Biscuit Co." [27]

"Biscuit prices," as Fortune observes, "change very little from year to year, whether the times be good or bad." [28] The price of crackers showed 11 month-to-month changes in 95 mont' s of 1926–33.[29] National Biscuit sales dropped 37.8 percent from 1929 to 1933.[30] The prices of ingredients declined precipitately; wheat flour fell 43.0 percent, butter 56.7 percent, and eggs 55.3 percent from June in 1929 to February 1933. But the prices of soda crackers were cut only 12.8 percent, those of sweet crackers only 3.3 percent.[31]

The annual average of the profits realized by the three largest companies on their investment in the business stood at 15.49 percent in the years from 1929 through 1935, ranging from a low of 9.83 percent in 1935 to a high of 21.36 percent in 1929.[32]

PRICE AGREEMENTS

In markets where sellers are few in number, they may more readily enter into agreements establishing and maintaining uniform prices and terms of sale. Such agreements, though plainly in violation of the law forbidding conspiracies in restraint of trade, have not infrequently occurred. Since 1920, apart from those instances in which a trade association, industrial institute, or some other common agency was employed,[33] cease and desist orders have been issued by the Federal Trade Commission and decisions have been handed down by the courts in cases involving the producers of viscose rayon yarn, pin tickets, flannel skirts, turbine generators and condensers, liquid chlorine, medical cotton goods, calcium chloride, corn cribs and silos, certain types of waterworks and gas system fittings, fire fighting equipment, pulverized iron, rubber heels, music rolls, lithographed labels, plumbing supplies, fertilizer, metal lath, gasoline, and brushes.[34] More recently complaints have been issued by the Federal Trade Commission against the distributors of foreign-type cheese and the manufacturers of erasers [35] and suits have been initiated by the Department of Justice against distributors of milk in Chicago, against producers of newsprint paper on the Pacific coast, and against firms engaged in the manufacture of tobacco products, typewriters, ophthalmic lenses, frames and mountings, hardboard, mineral wool for home insulation, and aircraft fabric.[36] It is not unlikely that such arrangements have been even more numerous than the official record would indicate.

[27] Federal Trade Commission, Open-Price Trade Associations, 70th Cong., 2d sess., S. Doc. No. 266 (1929), p. 78.
[28] Fortune, August 1936, p. 108.
[29] Nelson and Keim, op. cit., p. 173.
[30] Federal Trade Commission, Agricultural Income Inquiry, Part III, p. 36.
[31] Nelson and Keim, op. cit., pp. 172–173.
[32] Federal Trade Commission, op. cit., Part I, p. 826.
[33] Cf. infra, pp. 235–240.
[34] Federal Trade Commission, orders in Dockets Nos. 2161, 2329, 2755, 2941, 3317, 3393, 3519, 3544, 3690, and 3929, and Federal Antitrust Laws (Washington 1938), cases Nos. 209, 225, 231, 233, 310, 318, 332, 415, and 424, respectively.
[35] Federal Trade Commission, Complaints in Dockets Nos. 4071 and 4170.
[36] *U. S.* v. *Borden Co. et al.*, District Court of the United States, Northern District of Illinois, Indictment, Nov. 1, 1938 (a consent decree was accepted in this case on Sept. 16, 1940) : *U. S.* v. *Crown Zellerbach Corp. et al.*, District Court of the United States, Southern District of California, indictment, July 12, 1939 ; *U. S.* v. *American Tobacco Co., et al.*, District Court of the United States, Eastern District of Kenucky, Information, July 24, 1940 ; *U. S.* v. *Underwood Elliott Fisher Co., et al.*, District Court of the United States, Southern District of New York, Indictment, July 28, 1939 ; *U. S.* v. *American Optical Co., Inc., et al.*, District Court of the United States, Southern District of New York, Indictment, May 28,

STEEL

The base prices announced for various steel products apply to certain standard sizes and qualities. Since buyers often want smaller or larger sizes or different qualities, producers must be prepared to quote modified base prices on thousands of possible variations. These modifications take the form of "extras" which are added to the prices of standard products and "deductions" which are subtracted from them in order to arrive at the prices of nonstandard goods. In the determination of the amounts of these items, it appears that the United States Steel Corporation drops its price leadership in favor of a joint understanding with the other companies.

When the Department of Justice prepared for the T. N. E. C. a study of extras and deductions applicable in February 1939 to a group of selected steel products (including plates, shapes, wire, tin plate, black plate for tinning, merchant bars, hot rolled sheets, cold rolled sheets, hot rolled strip, cold rolled strip, galvanized sheets, sheet piling, rails, skelp, and wire rods) it found that:[37]

with respect to each of the products examined the extras and deductions announced by every manufacturer of the product were found to be identical. Without exception the extras and deductions applicable to these products are uniform as between all producers of each. The only qualification to be made relates to specifications of a given product not rolled by a particular producer. In some cases lags in publication of changes in extras resulted in differences for limited periods. Otherwise it can accurately be said that throughout the steel industry extras and deductions are uniform for all producers.

There is voluminous evidence of the detailed uniformity of these items.[38] In fact, the industry quite frankly described the collaborative manner in which they are determined. Mr. Fairless, president of United States Steel, after testifying before the T. N. E. C. that extras and deductions are based upon the costs of the specific sizes and qualities to which they apply, was questioned as follows:[39]

Mr. FELLER. The extras that you set up are on the basis of your costs or your anticipated cost?

Mr. FAIRLESS. Not only our cost but a cross section of the costs of the industry.

Mr. FELLER. How do you know that?

Mr. FAIRLESS. We make it our business to find out. We talk of extras with our competitors.

Mr. FELLER. Oh, you and your competitors consult with each other with respect to the extras.

Mr. FAIRLESS. Yes; and I am advised by my general counsel that that is perfectly within our rights to do so.

Referring to certain changes made in the extras and deductions in 1938, the testimony continues:[40]

Mr. FELLER. Mr. Fairless, prior to this announcement of these rather extensive extra changes, was there consultation with other members of the industry?

Mr. FAIRLESS. Mr. Adams worked with various members of the industry, as I told you. This was such a radical change and covered so many problems that

1940; *U. S.* v. *Masonite Corp., et al.*, District Court of the United States, Southern District of New York, Complaint, Mar. 11, 1940: *U. S.* v. *Johns Manville Corp., et al.*, District Court of the United States, Northern District of Illinois, Complaint, June 24, 1940: *U. S.* v. *Wellington Sears Co. et al.*, District Court of the United States, Southern District of New York, Indictment, Aug. 27, 1940.

[37] Hearings before the Temporary National Economic Committee, Part 19, p. 10725.

[38] Cf. Ibid., Part 5, p. 1874, and Federal Trade Commission, An Analysis of the Basing System of Delivered Prices (mimeo., 1940.)

[39] Hearings before the Temporary National Economic Committee, Part 19, p. 10560.

[40] Ibid., pp. 10566–10567.

were within this industry, there were many discussions in respect to it, many discussions.

Whereupon Mr. Adams, a vice president of the United States Steel Corporation of Delaware, testified that "most of the companies in the steel industry were represented" in these conferences [41] and Mr. Grace, president of Bethlehem Steel, informed the committee that "different people, depending on the project you are appraising" had represented Bethlehem.[42]

The significance of this procedure is indicated by the fact that extras and deductions, thus agreed upon, constitute a large part of the base prices of many of the principal products of the industry. The study made by the Department of Justice disclosed that extras averaged 11.6 percent of the base price and 9.9 percent of the delivered price of 10 selected products, ranging from 0.8 percent of the base price in the case of cold rolled sheets to 45.2 percent in the case of cold rolled strip.[43] Not included in their uniform extras and deductions are the identical discounts for cash and 30-day payment which are allowed by all the companies.[44]

IRON ORE

The price of iron ore is an important element in the price of steel, since it takes about 2 tons of ore to make a ton of pig iron. The great steel companies are closely integrated with the sources of their ore, either through outright ownership and operation of mines by their subsidiaries or through contracts with "independent" ore concerns. According to testimony before the T. N. E. C., "there is hardly a steel company today operating its own blast furnaces that has not from 50 to 100 percent of its ore supply under its own ownership." [45] The Lake Superior region is the source of 85 percent of the ore used by the domestic industry. In normal years, 85 percent of the ore shipped from this region goes to companies owning the mines from which it comes.[46] United States Steel owns about half of the Superior reserves and through its subsidiary, the Oliver Iron Mining Co., accounted for 42 percent of the shipments from the region in 1937.[47] Producers who own their own mines have a special interest in keeping the price of ore high, since they may thus, without injuring themselves, handicap competitors who own none or only a part of the sources of their ore. The latter producers buy from approximately ten "independent" ore concerns, among whom three or four are dominant. These companies are connected with the steel corporations through stockholdings and contractual relationships.[48]

Evidence adduced before the T. N. E. C. indicates that firms producing ore have been consolidated in order to "strengthen" their "market position" and "to stabilize the market value of ore"; [49] that announcement of certain consolidations apparently has been withheld in order to forestall prosecution; [50] that the ore business is "in the

[41] Ibid., p. 10567.
[42] Ibid., p. 10622.
[43] Ibid., p. 10724.
[44] Ibid., Part 5, pp. 1877, 1891.
[45] Ibid., Part 18, p. 10223.
[46] Ibid., pp. 10223, 10339, 10366.
[47] Ibid., pp. 10223, 10425.
[48] Ibid., pp. 10231, 10265, 10268, 10279.
[49] Ibid., pp. 10239, 10241.
[50] Ibid., pp. 10253–10254.

hands of a small group of men who all work on a close and friendly basis";[51] that the independent producers of ore have found that "close cooperation of competitors is of great mutual advantage";[52] that they form a "united front" in carrying on their activities;[53] and that they have participated in common agreements and understandings.[54] During the period of the National Industrial Recovery Act, the ore companies formulated a code under which they cooperated and to which they adhered after the Schechter decision, despite the fact that it was never approved by the N. R. A.[55] It appears, in short, that the industry is so tightly organized that it is practically impossible for a new firm to enter.[56]

Sales contracts for ore are signed in the early spring and shipments are made during the open season on the Great Lakes. The price written into the first contract of the season becomes the "Lake Erie base price" and continues as the official price for ore during the remainder of the year.[57] There is abundant evidence that members of the industry have consulted with one another and carried on negotiations with reference to this price.[58] They have attempted to prevent sellers from signing the opening contract with a large buyer, such as the Ford Motor Co., who might be in a position to obtain unusually favorable terms,[59] and when they have failed, they have not announced the initial price as the base price for the year.[60] In at least one instance, according to testimony before the T. N. E. C., it appears that the season was opened with a "wash sale."[61] The established quotation has been undercut sporadically, but the industry has always directed its joint efforts toward the elimination of such "concessions."[62]

The Lake Erie base price of ore has remained unchanged for years at a time. It stood at $4.25 per ton from 1925 through 1928, and $4.50 from 1929 through 1936, and at $4.95 from 1937 through 1939,[63] being unaffected both by depression in 1930–33 and by the existence of a huge surplus turned out in 1937.[64] At the beginning of 1940, however, the Oliver Iron Mining Co., which had previously confined itself almost entirely to production for United States Steel, advertised ore for sale in unlimited quantities on the open market and was reported to have signed the year's first contract with the Ford Motor Co. at a price of $3.75 a ton, undercutting by $1.20 the quotation that had prevailed in the 3 preceding years.[65]

GASOLINE

The price of gasoline in a regional market has sometimes been raised and maintained through an agreement among major oil companies and independent refiners under the terms of which the former have regularly bought from the latter any portion of their output that

[51] Ibid., p. 10295.
[52] Ibid., p. 10296.
[53] Ibid., p. 10304.
[54] Ibid., pp. 10304–10305.
[55] Ibid., pp. 10298–10300.
[56] Ibid., pp. 10351 ff.
[57] Ibid., p. 10358.
[58] Ibid., pp. 10317–10321, 10342–10346, 10352–10355, 10382.
[59] Ibid., p. 10370.
[60] Ibid., pp. 10333–10334.
[61] Ibid., pp. 10354–10355.
[62] Ibid., pp. 10315–10317, 10338, 10383.
[63] Ibid., p. 10311.
[64] Ibid., p. 10323.
[65] New York Times, January 28, 1940.

would depress the price if it were freely sold. In some cases, the majors have even made purchases at figures which have exceeded their own production costs. They have then withheld these stocks from the open market, selling the gasoline through their own outlets, storing it, transporting it to other regions, or shipping it abroad. In this way, the price within the area has been controlled.

Such an arrangement was employed by 12 or more companies, 8 of them among the 20 leading majors, for the purpose of raising and maintaining the price of gasoline in 10 Midwestern States in 1935 and 1936. These concerns produced about 85 percent of the gasoline sold in the area; independent refiners produced the other 15 percent. The majors marketed a large part of their output through their own retail chains. Both groups also made sales to independent jobbers who sold in turn to independent retailers. Most of these deliveries were made under contract; the exchanges which took place from day to day (usually at the independent refineries) constituted no more than 5 to 7½ percent of the total sales. The price established in these transactions, however, became the spot market price which was published in two trade journals of the industry. The contracts under which jobbers obtained their supplies from the major companies required them to pay the price which was published for the day on which shipments were made. Retailers who bought their gasoline from these jobbers were forced, accordingly, to pay a price which would cover this figure and to charge a price which would cover their expenditures. The retail price established by Standard of Indiana, which served as market leader in the area, was also set by adding a fixed differential to the spot quotation. As a consequence, the major companies, by controlling the price at which the small volume of spot market gasoline changed hands, were in a position to fix the retail price.

The firms participating in the program accordingly agreed to subject the spot quotation to control. Each of them selected an independent refiner as a "dancing partner" and assumed responsibility for his "surplus" output. Buying in the spot market, in small quantities, at progressively higher figures, they contrived to raise the tank car price and to maintain it at an artificial level for the better part of 2 years. The price of regular-grade gasoline rose from 4⅜ cents per gallon in February 1935 to 5⅝ cents in June, an increase of more than 25 percent. It remained at this figure throughout the rest of 1935, displaying a rigidity without parallel in the history of the industry. It was also stable for long periods in 1936, rising as high as 6⅛ cents and never falling below 5½ cents. Independent refinery output no longer depressed the spot quotation. Independent jobbers, compelled to buy at this figure, advanced their own charges. Independent retailers were forced to follow suit. The integrated majors, protected thus from competition, augmented their profits by exacting higher prices from the consumers of gasoline than they otherwise could have obtained.[66] The program was held to constitute a violation of the Sherman Act in a decision which was handed down by the Supreme Court of the United States on May 6, 1940.[67]

[66] Cf. *U. S.* v. *Socony-Vacuum Oil Co., Inc., et al.*, United States Circuit Court of Appeals for the Seventh Circuit, October Term, 1938, Brief for the United States.

[67] 310 U. S. 150.

CHEMICAL NITROGEN

Although it has many industrial uses in peacetime and is vitally important as a raw material for explosives in wartime, chemical nitrogen is first of all a fertilizer, being one of three chemical substances essential to plant life. This product is applied directly to the soil in various forms or is compounded with potash and phosphates in the production of mixed fertilizers. The three principal sources of the American supply are the natural deposits of sodium nitrate in Chile, ammonia which is produced synthetically by an air-fixation process, and ammonia and ammonium sulphate which are derived as by-products from coke ovens in the United States. The Allied Chemical & Dye Corporation dominates both domestic branches of the industry and is reported to have had an agreement with the Chilean monopoly controlling competition in the sale of sodium nitrate.

Domestic producers turned out 176,025 tons of synthetic nitrogen, valued at $20,860,000, in 1935.[68] Although Allied Chemical does not publish figures covering its output, it is known that the air-fixation plant at Hopewell, Va., operated by its subsidiary, the Solvay Process Co., represented some 59 percent of the total capacity of the domestic industry in 1934, while two plants of E. I. du Pont de Nemours & Co. represented another 30 percent.[69] However, since the du Pont capacity is largely employed in furnishing nitrogen used elsewhere in the du Pont organization in the manufacture of explosives and other products, this company does not occupy a very important place in the market for fertilizer. It is therefore probable that Allied Chemical sells substantially more than 59 percent of the domestically produced synthetic nitrogen which is used for this purpose.

The output of by-product nitrogen amounted to 116,250 tons, valued at $10,266,000, in 1935. There are some 65 firms, mostly iron and steel and public utility companies, which sell this product, 80 to 85 percent of it being marketed in the form of ammonium sulphate. Some 35 to 40 percent of this supply, however, is handled by the Barrett Co., another subsidiary of Allied Chemical, which is also the marketing organization for the ammonia division of the Solvay Process Co.[70] It is estimated by Fortune that this concern sold 66 percent of the domestic output of ammonium sulphate and benzol in 1937.[71] These figures, large as they are, show that the Barrett Co. has declined in relative importance since 1924, when it marketed about 85 percent of the nitrogen output of coke-oven plants in the United States.[72]

Allied Chemical, using synthetic ammonia from its Hopewell plant, is the only domestic producer of sodium nitrate, turning out some 550,000 tons in 1937. The only other source of the American supply is the Chilean monopoly, which exported nearly 700,000 tons to the United States in that year. Until the domestic industry began to manufacture synthetic nitrogen in commercial quantities in the late 1920's, the Chilean producers, who supplied nearly all of the sodium nitrate used in this country, were able to charge a monopoly price. When Allied Chemical went into the business, however, vigorous com-

[68] U. S. Tariff Commission, Chemical Nitrogen, Report No. 114, Second Series (1937), p. 192.
[69] Ibid., p. 184.
[70] Ibid., p. 210.
[71] Fortune, October 1939, p. 146.
[72] U. S. Tariff Commission, loc. cit

petition drove prices down. The quotation dropped by 50 percent from 1927 to 1933, and imports from Chile fell off abruptly. But active competition apparently did not persist. The price of sodium nitrate displayed increasing rigidity during the 1930's. The monthly quotation changed only four times—rising on each occasion—between the fall of 1934 and the beginning of 1940; the last change was recorded in August 1937.[73] In April 1939 the Federal Trade Commission issued a complaint [74] against the Barrett Co. and the Chilean Nitrate Sales Corporation, alleging that the two firms, supplying all of the sodium nitrate sold in the United States, had entered into an elaborate conspiracy to fix prices and allocate territories and to establish resale prices for distributors, the effect of which was "to regiment the nitrate of soda trade and industry" and "to substantially increase the cost of such nitrate of soda to consumers."

POTASH

Potash, another important fertilizer material, is found in bedded deposits of certain soluble salts and in surface deposits either as brine or salt lake crusts. American reserves—principally in New Mexico and Searles Lake, Calif.—are small in comparison with the resources of Europe, the Union of Soviet Socialist Republics, and Palestine. In 1938, Germany produced about 60 percent of the world output of marketable potash salts, while France, in Alsace, produced 16½ percent, the United States 9½ percent, and the Union of Soviet Socialist Republics about 9 percent. Until the First World War, international trade in potash was a German monopoly. When Germany placed an embargo on exportation, soon after the beginning of the war, American prices rose by 1,100 percent and numerous projects were initiated to develop the domestic reserves. Nearly all of these enterprises collapsed, however, with the post-war resumption of imports and the consequent decline in prices. From 1923 to 1932, the only company producing potash from domestic deposits was the American Trona Corporation and its output was overshadowed by imports from Germany and France.

In 1924, the French and German producers entered into a price compact and agreed to divide the American market, the French to make 32½ percent and the Germans 67½ percent of the sales.[75] Two years later a 10-year Franco-German cartel agreement was negotiated, providing for the establishment of a joint selling agency in the United States. In 1927, the Department of Justice instituted a suit against the foreign producers under the Sherman Act and the Wilson Tariff Act, alleging a conspiracy to share the market and to fix prices by agreement. In 1929, the defendants consented to a decree enjoining the further operation of the plan,[76] but it may be doubted that this decision altered the organization of the American market in a significant way. The common sales agency envisioned in the 1926 agreement, organized under the laws of the Netherlands as the Potash Export Maatschappy N. V., was established in the following year, with offices in Amster-

[73] Cf. Bureau of Labor Statistics, Wholesale Prices (monthly), 1934–40.
[74] Docket No. 3764.
[75] Alfred Plummer, International Combines in Modern Industry, second edition (London 1938), p. 96.
[76] Cf. Federal Anti-Trust Laws, case 325.

dam and New York. From 1927 to 1938, this concern sold almost half of the potash marketed in the United States.

Domestic production grew steadily throughout the thirties; in 1938 it exceeded imports by 60 percent. The development of the American industry came about largely as a result of exploration, drilling, and research carried on by the United States Geological Survey, the Bureau of Mines, and the Department of Agriculture. There are now three American companies in the field: the American Potash & Chemical Corporation, which absorbed the Trona Corporation in 1926, the Potash Company of America, and the United States Potash Co. Each of these concerns holds leases for the exploitation of public lands. Each of them accounts for about one-third of the domestic output.[77] One of them is entirely under foreign control and another is partly so. Nearly 80 percent of the stock of American Potash & Chemical is owned by the Consolidated Gold Fields of South Africa, Ltd., and "a group of Netherlands companies."[78] Half of the stock of the United States Potash Co. is owned by the Pacific Coast Borax Co., which is controlled, in turn, by Borax Consolidated, Ltd., of England.[79]

Harmonious relations have been maintained between the American producers and the European cartel. Following a sharp break in prices in 1934, an "understanding" is said to have been reached in 1935, "ostensibly for propaganda and research, but it is an open secret that it has a bearing upon sales also."[80] Base contract prices rose until 1937 and remained unchanged through 1939. With increased capacity, the American concerns, already exporting to Canada and Japan, sought to enter the European market. In November 1938 they formed the Potash Export Association and sent two directors abroad to negotiate with representatives of the cartel. This action was explained in the following words:[81]

> It is generally understood that the foreign cartel controls all the production in the world outside of the production in the United States. It also has such a grip on the markets of the world, particularly in Europe, that it would be very difficult for the Export Association to sell any substantial tonnage in foreign markets except by some agreement with the cartel.

A "temporary arrangement" was negotiated and it was announced early in 1939 that officers of the association were going abroad shortly to arrange for the exportation of additional tonnage.

The domestic consumers of potash are centered in the eastern and southeastern States, although some of the fertilizer plants are located elsewhere. Since the cost of transportation from Europe and from Carlsbad, N. Mex., and Searles Lake, Calif., bulks large in the price of potash, nearby producers should be able to underbid their more distant rivals. Price uniformity has been effected, however, through the employment of a delivered price system, under which all sellers base their quotations on a number of ports on the Atlantic, Gulf, and Pacific coasts. As a result, consumers in certain inland sections have been required to pay delivered prices which have not reflected their

[77] *U. S.* v. *American Potash and Chemical Corp., et al.*, District Court of the United States, Southern District of New York, Indictment, May 26, 1939.
[78] Willard L. Thorp and Ernest A. Tupper, The Potash Industry, a report submitted to the Department of Justice by the Department of Commerce (processed, 1940), p. 25.
[79] Ibid., p. 39.
[80] Plummer, op. cit., p. 99.
[81] Quoted in Thorp and Tupper, op. cit., p. 73.

proximity to the domestic sources of supply. Since 1938, however, prices have also been quoted from Carlsbad.

The three American companies, their trade association, the American Potash Institute, Inc., and the Potash Export Maatschappy N. V., were indicted in 1939 in a proceeding under the Sherman Act which attacked this system. The indictment also charged them with a conspiracy to sell at identical prices and discounts and alleged an agreement "arbitrarily to raise the price of potash" and to fix "artificially and arbitrarily high prices."[82] On May 21, 1940, the domestic producers accepted a consent decree in which they were enjoined from fixing prices, discounts, and terms of sale, and from combining "to quote prices only on the basis of c. i. f. [costs, insurance, freight] certain ports or to select the ports which will be used for the purpose of such quotations."[83] The complaint against the Potash Export Maatschappy N. V. was dismissed because the agency had become inoperative since the beginning of the Second World War.

The profit record of the domestic industry is an enviable one. The American Potash & Chemical Corporation, which was first in the field, made money in every year during the depression of the thirties and obtained a net income, before depletion, of more than 14 percent on its net worth in 1938. The United States Potash Co., which began commercial production in 1932, realized 29 percent before depletion on its net worth exclusive of the value of its ore reserves in 1936, 40 percent in 1937, and 32 percent in 1938. The Potash Co. of America, in operation only since 1934, had a net income, after depletion based on cost, of 6 percent on net book worth in the 12 months ending June 30, 1937, 12 percent in 1938, and 14 percent in 1939.[84]

TYPEWRITERS

Four companies, manufacturing 95 to 98 percent of all the new standard typewriters sold in the United States, accepted a consent decree in another antitrust suit on April 23, 1940. It was charged in the indictment in this case that these concerns had agreed upon uniform prices, identical discounts, and a common schedule of trade-in allowances; that they had maintained these prices, discounts, and allowances in their own sales outlets and had required other distributors to adhere to them; that they had arranged to submit identical quotations whenever bids were requested; that they had cooperated in underbidding other manufacturers who sought to obtain a share of the business; that each of them had bought from the others machines of their own make that had been accepted in trade and that all of them had agreed to destroy machines that had been made by other concerns. The prices of standard models of Underwood, Remington, Royal, L. C. Smith, and Corona typewriters were advanced simultaneously from $105 to $110 on October 11, 1934, and from $110 to $115.50 on April 1, 1937.[85] The manufacturers of these machines realized substantial profits during the period from 1935 through 1939.

[82] *U. S. v. American Potash and Chemical Corp., et al.*, Indictment.
[83] *U. S. v. American Potash and Chemical Corp., et al.*, District Court of the United States, Southern District of New York, consent decree, May 21, 1940.
[84] Thorp and Tupper, op. cit., pp. 28, 36, 42–43.
[85] *U. S. v. Underwood Elliott Fisher Co. et al.*, District Court of the United States, Southern District of New York, Indictment, July 28, 1939.

Remington Rand, Inc., obtained a return which ranged from a low of 6.40 percent on average invested capital in the fiscal year ending March 31, 1935, to a high of 14.03 percent in the year ending March 31, 1938. L. C. Smith & Corona Typewriters, Inc., obtained a return which ranged from 5.18 percent in the year ending June 30, 1939, to 16.82 percent in the year ending June 30, 1937. The Underwood Elliott Fisher Co. obtained a return which ranged from 8.31 percent in the calendar year 1938 to 23.99 percent in 1937. The Royal Typewriter Co. obtained a return which ranged from 15.75 percent in 1935 to 29.75 percent in 1936.[86]

EYEGLASSES

Similar arrangements are alleged to have existed among the manufacturers and wholesalers of ophthalmic lenses, frames, and mountings. Here three firms—the American Optical Co., the Bausch & Lomb Optical Co., and the Shuron Optical Co.—control three-fourths of the supply. According to four indictments which were returned in antitrust proceedings on May 28, 1940, lens manufacturers have issued uniform price lists, adopted identical differentials of 25 percent between the prices of first and second quality lenses, executed uniform resale price maintenance contracts, issued lists of approved distributors who were eligible to receive discounts, granted discounts from list prices which were set at 33 percent by each of the larger firms and at 43 percent by each of the smaller ones, and refused to grant discounts to price cutters who were not approved; wholesalers who prepare lenses on prescription for opticians and optometrists, one of the most important departments of the business, have made identical charges for these services; the American Optical Co., through agreements with other manufacturers of frames and mountings, through licenses granted to them under certain patents which it controls, and through threats of ruinous competition, has forced these firms to adhere to common prices on both patented and unpatented goods, to execute uniform resale price maintenance contracts, and to refuse discounts to distributors who were not on its approved list. By these and other means, it is contended, identical prices have been established and maintained throughout the trade.[87]

CHEESE

The consumption of cheese in the United States has shifted from bulk cheese to a variety of processed, packaged, trade-marked, and nationally advertised products for which bulk cheese is merely the raw material. All of the basic patents on the methods and the equipment employed in the business of processing and packaging have been held by the Kraft-Phenix Cheese Corporation, a subsidiary of the National Dairy Products Co., and the Lakeshire Cheese Co., a subsidiary of the Borden Co. These two holding companies, together with Armour & Co. and Swift & Co., sold nearly three-fourths of the domestic output of cheese in 1934 and 1935.[88]

[86] Poor's Industrials, 1940.

[87] *U. S.* v. *American Optical Co. et al.*, Nos. 107–417, 107–418, 107–420, and *U. S.* v. *Optical Wholesalers National Association, Inc. et al.*, No. 107–419, District Court of the United States, Southern District of New York, Indictments, May 28, 1940.

[88] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 250.

The price of bulk cheese was formerly established on organized exchanges where sellers and buyers were numerous and quotations on the call boards fluctuated widely from week to week. The situation in these markets has been radically altered in recent years by the concentration of the business in the hands of a few large firms. Nearly all of the transactions on the Wisconsin Cheese Exchange in 1935 took place among 10 members, none of them dairy farmers or manufacturers of cheese in bulk. Subsidiaries of the four large processing concerns appeared on both sides of the market, not only buying cheese, but also offering it for sale. It thus appears that the exchange has been employed as a medium through which these concerns have established the prices which they pay for raw material.[89] Quotations have displayed increasing rigidity as transactions have become concentrated in fewer hands. In 52 weeks in 1936, in 1937, and in 1938, the weekly price changed only 15, 9, and 21 times, remaining unaffected, even during the heaviest marketing seasons, for periods of 12, 14, and 24 weeks at a time.[90] This situation was explained by Mr. J. L. Kraft, president of Kraft-Phenix, in a letter addressed to an official of the United States Department of Agriculture in 1933:[91]

> For the past few years a fair price has been established on the Plymouth Call Board in Wisconsin, which, to a very large extent, has been the ruling price throughout the country, or, in other words, the basic price from which to figure. This price has not been established by agreement but rather by sort of a tacit or mutual understanding as to what a fair relationship or fair value for the product should be, based upon statistical information at hand and the law of supply and demand. * * *

It does not appear, however, that the dairy farmer has been invited to participate in the "tacit or mutual understanding" which determines the "fair value" that he receives.

Approximately two-thirds of the Swiss, brick, Limburger, and Munster cheese produced in the United States is made in the State of Wisconsin, the bulk of it coming from 250 factories operated by farmer cooperatives in four counties in the southern part of the State. Approximately three-fourths of the foreign-type cheese produced in this area is purchased by three distributors, National Dairy, Kraft-Phenix, and its subsidiary, the Badger-Brodhead Cheese Co. buying the output of 40 to 60 factories, Borden buying the output of some 75 factories, and J. S. Hoffman & Co. and its subsidiary, the Triangle Cheese Co., buying the output of some 60 factories. On March 23, 1940, the Federal Trade Commission issued a complaint against these firms charging that they had followed the practice, since October 1938, of holding monthly meetings at which they had agreed upon the prices they would pay, thus determining the prices of foreign types of cheese throughout the United States.[92] Disposition of the case is still pending.

There is also evidence of nonaggressive price practices in the sale of processed cheese. Reports published by the Federal Trade Commission indicate that the two leading companies in the field have pursued a live and let live policy, cooperating in the exchange of infor-

[89] Federal Trade Commission, Sale and Distribution of Milk and Milk Products, Chicago Sales Area, 74th Cong., 2d sess., H. Doc. No. 451 (1936), pp. 91–96.
[90] William H. Nicholls, "Post-War Concentration in the Cheese Industry," Journal of Political Economy, vol. 47 (1939), pp. 823–845, at pp. 834–837.
[91] Federal Trade Commission, op. cit., pp. 98–99.
[92] Federal Trade Commission, Complaint, Docket 4071.

mation, in the execution of resale price maintenance contracts, and in the enforcement of resale prices by threats of refusal to sell.[93] A letter which an official of the Borden Co. directed to one of its representatives in 1935 is quoted, in part, as follows:[94]

> You can save us a lot of trouble if you will go out of your way a little and talk to Kraft's man in that market once in a while. Just a little sane and civil cooperation between manufacturers' representatives will go a long way toward keeping harmony in a market.
>
> * * * * * * *
>
> Successful handling of a market makes it imperative that you cooperate with your competitor to a certain extent. * * *
>
> Under no circumstances do we want you to discuss or agree to anything that may be termed illegal, but sit down and talk your problems over. The chances are that Kraft's man up there is very human like yourself, and each of you can be a big help to the other without revealing any professional secrets and without incurring any criticism from headquarters. Try, please.

Competition has apparently given way to cooperation both in the purchase of raw material from the farmer and in the sale of packaged products to the ultimate consumer.

LIFE INSURANCE

The price of life insurance differs from other prices in important respects. The payment that is made by the policyholder includes two elements: The net premium which is required to enable the insurer to meet the claims which may arise under the policy and a load factor which is designed to cover the expenses involved in conducting the business. It is clear that it would be undesirable for insurance companies to compete in reducing the net premium to a point where they would be unable to fulfill their contractual obligations. But it does not follow that they should not compete in cutting the other factor in their price. In insurance, as elsewhere, the costs of doing business vary with variations in the methods employed and in the efficiency obtained by different concerns. Competition in reducing the load factor might be expected to provide the policyholder with protection at lower cost. Agreement as to rates, on the other hand, might have the effect of preserving costly methods of operation and incompetent administration at his expense. The situation is further complicated, however, by the fact that most of the companies selling life insurance are mutuals and that most of the policyholders participate in the earnings of such concerns. In these cases, therefore, the net cost of a policy will usually be less than the amount of the annual premium. As a consequence, the companies might agree upon identical rates and still compete with one another in terms of actual cost. It must be noted, however, that mutuality in the control of these concerns is often nominal rather than real and that managements may find in rate agreements protection against the sort of competition that might force unwelcome readjustments in administrative expenditures and reduce the compensation of executives. The special character of the business does not justify collective action in the determination of its rates.

It appears from testimony presented before the T. N. E. C. that representatives of life insurance companies have frequently met and

[93] Idem, Sale and Distribution of Milk and Milk Products, New York Milk Sales Area, 75th Cong., 1st sess., H. Doc. 95 (1937), pp. 5, 66–68, 114–115.
[94] Ibid., pp. 67–68.

agreed upon programs designed to circumscribe the area of competition in the sale of ordinary life, group life, and annuity policies. About a tenth of the ordinary life insurance sold in the United States is written by stock companies. Of this, nearly half is accounted for by three Hartford firms: The Travelers Insurance Co., the Aetna Life Insurance Co., and the Connecticut General Life Insurance Co.[95] At various times during 1932, insurance rates and such matters as the mortality basis, the interest assumption, and surrender values were discussed at meetings attended by officials of these concerns. According to a memorandum taken from the Travelers' files, "expense loadings were discussed tentatively with the result that a reasonable loading for expenses and profit by age can be safely counted upon." [96] Mr. Benedict D. Flynn, vice president and actuary of the company, was questioned as follows: [97]

Mr. GESELL. As a result of these memoranda, the Aetna, the Travelers, and the Connecticut General, the three largest nonparticipating companies, got together and agreed to a program of uniform rates for ordinary insurance, did they not?

Mr. FLYNN. Right.

Mr. GESELL. Now, that program for uniform rates was a program for uniform rates, whether you call it pooling, or whether you call it rate fixing, or no matter what you call it, Mr. Flynn. You agreed to all the factors in ordinary life insurance nonparticipating rates.

Mr. FLYNN. After full discussion and examination of the experience and the figures of each of the three companies, and after considerable debate, we reached a conclusion which was agreeable to all three.

Rates were raised on April 1, 1933. Other conversations followed, Connecticut General resisting further advances because it feared that it would lose business to the mutuals. As a consequence—

it was decided to call a conference with those participating companies whose gross rates in our opinion should be increased * * * [98]

Hartford officials met with officials of the Metropolitan, Prudential, and Provident Mutual Companies on March 2, 1934. Five of these concerns raised their rates on January 1, 1935; the sixth followed suit on April 1, 1935.[99] Further conferences resulted in another increase on March 1, 1937.[1] The smaller stock companies generally followed the Hartford lead. According to the testimony: [2]

Mr. GESELL. So the result of the agreement reached by your companies was to bring about a considerable uniformity in rates throughout the nonparticipating field and certainly to bring about a rate increase throughout the nonparticipating field?

Mr. FLYNN. It would have that tendency. * * *

Similar conferences have been held in the group insurance field. In 1919, when six companies were writing almost all of the group life contracts sold in the United States, the three Hartford companies adopted uniform rates for such policies while two of the participating companies—Metropolitan and Prudential—established rates that were uniformly higher by the customary differential of approximately 5 percent.[3] A memorandum written by the actuary of the Travelers at this time read, in part: [4]

[95] Hearings before the Temporary National Economic Committee, Part 10, p. 4224.
[96] Ibid., p. 4233.
[97] Ibid., p. 4232.
[98] Ibid., p. 4262.
[99] Ibid., pp. 4263–4265.
[1] Ibid., p. 4275.
[2] Ibid., p. 4277.
[3] Ibid., p. 4163.
[4] Ibid., p. 4163.

It would seem, therefore, that the action which has been sought by the Hartford companies involving an understanding as to rates and maximum commissions is now possible and that competition on the basis of rates and underwriting, as well as commissions, will in the future be avoided by an agreement of the three Hartford companies, the Metropolitan, and the Prudential. The Equitable rates being so much higher, they have not caused controversy.

Informal conferences were held at various times during the following years and agreements were reached concerning such matters as commissions, underwriting rules, extra premiums for hazardous industries, maximum limits in group contracts, and the transference of business from firm to firm.[5] In 1926, a formal organization, the Group Life Association, was set up. The vice president and general counsel of the Prudential apparently viewed this move with some misgivings, for he wrote:[6]

As we all know, the old informal Group Committee was, on the whole, unusually successful in avoiding improper methods of competition, particularly in avoiding the cutting of premium rates. * * *

* * * To an insurance commissioner looking for matter for criticism, I am afraid the formal constitution of the proposed Group Life Association would be found only too satisfactory as evidence that the companies were combining to prevent such freedom of competition as would result in the maximum service being offered for the premiums collected.

The association, however, has become an important factor in the field. Twenty-eight different companies have been represented at its meetings;[7] its members wrote 93.5 percent of the group life policies in force in the United States from 1926 through 1937.[8] Minimum rates for such policies are now established by the New York State Superintendent of Insurance under a law enacted in 1926. Since companies which operate in New York must collect the same premiums in other States, and since members of the Group Association who are not subject to the jurisdiction of the New York authorities have agreed voluntarily to make similar charges, the minima which are thus established are effective in the country as a whole. The resulting rates are apparently those upon which the companies have agreed. According to a vice president and actuary of the Aetna Co., the superintendent "has usually adopted our recommendations promptly."[9] The New York law does not cover group death and dismemberment insurance, group accident and health insurance, or group annuities. Rates for these policies are still set through the association and adopted by its members as their own.[10]

While officials of companies writing annuity contracts have met occasionally to discuss premiums, commissions, interest rates, loading, and other annuity problems for nearly two decades, these meetings have been more frequent in recent years.[11] In all but one of 14 such sessions between March 1933, and October 1938, those present represented between 50 and 85 percent of the insurance in force in the United States.[12] Dr. Arthur Hunter, chief actuary and vice president of the New York Life Insurance Co., who presided at the conferences, was questioned as follows:[13]

[5] Ibid., p. 4173.
[6] Ibid., p. 4702.
[7] Ibid., pp. 4708–4709.
[8] Ibid., p. 4710.
[9] Ibid., p. 4191.
[10] Ibid., pp. 4204–4206.
[11] Ibid., p. 4508.
[12] Ibid., pp. 4828–4829.
[13] Ibid., p. 4513.

Mr. GESELL. The purpose of these meetings was to reach as near as possible a uniform program for increased annuity rates, was it not?

Dr. HUNTER. Yes; I think that is a fair statement.

As a result of action taken at such meetings, annuity rates were, in fact, increased in 1933, in 1935, in 1936, and again in 1938.[14] Individual companies have conformed to the rates agreed upon. At one meeting, the chairman read letters from two concerns stating "that they would go along with the majority of the companies both as to rates and commissions," [15] and after the meeting an official of the Travelers wrote that "the general feeling was that if some missionary work were done on the Connecticut Mutual, Phœnix Mutual, and New England Mutual, practically all important companies, with the possible exception of the Provident Mutual, would go along on the proposed program." [16] Mr. H. R. Bassford, actuary of the Metropolitan, was asked if his company pursued this policy: [17]

Mr. HENDERSON. Where you get into a discussion at these meetings you have attended, and a proposal of some kind is made, don't you say, "We will go along if there is a large enough group going along?"

Mr. BASSFORD. I guess we do; yes. I think we have said that.

DELIVERED-PRICE SYSTEMS

In those industries where a few concerns sell a product so heavy that transportation costs are high, they have frequently contrived to eliminate competition by quoting prices which include a charge for delivery from a common basing point. This practice compels the buyer to pay the seller, not only for his goods, but also for their transportation. When he buys from a plant located at the basing point, he pays for delivery a sum which equals the cost the seller has incurred. But when he buys from a plant located elsewhere, he pays, not the cost of shipment actually involved, but freight from the basing point. He may purchase from a nearby mill and pay for freight from one located many miles away. The shipment he pays for is an imaginary one; the charge for freight included in his price is largely fictitious. Whether he buys from an adjacent or a distant plant, his payment for delivery is the same. He may have goods shipped to him at equal cost by any firm in the business. The fact that every seller is thus brought within the reach of every buyer has sometimes been advanced in proof of the contention that the practice fosters active competition. It proves the opposite. If firms selling heavy goods were really to compete, each one, enjoying lower transportation costs to points within the terrritory adjacent to its plant, would undersell its distant rivals in this field. Where firms agree upon a common basing point, each one, foregoing the competitive advantage inherent in its location, makes its delivery charge so high as to enable every other one, however distant, to sell in territory that would otherwise belong to it alone. Without collusion, no such practice could obtain. It is true that many plants compete in making every sale. Their competition is in salesmanship, but not in price.

In itself, of course, the basing point method of quoting prices need not involve price uniformity. The delivered price includes two ele-

[14] Ibid., pp. 4514–4521.
[15] Ibid., p. 4520.
[16] Ibid., p. 4524.
[17] Ibid., p. 4561.

ments: The charge for freight and the price of the product at the basing point. The members of an industry might conceivably make delivery to each buyer of their products at prices which included identical charges for freight on shipments made by a common method of transportation from the same basing point and still compete with one another in setting the base prices to which they added the uniform delivery charges in arriving at their quotations on delivered goods. When a seller was closer to a buyer than was the basing point or when he employed a less expensive method of transportation than that assumed in computing the common delivery charge, he might include this charge in his quotation and still undercut his competitors by reducing his base price. Under such circumstances, the delivered price quotations of different sellers would not be identical. It is only when base prices as well as delivery charges are uniform that a basing point system contributes to such identity. This, however, is usually the case. An industry so thoroughly in harmony that it can agree upon the one element in the delivered price is unlikely to encounter serious difficulty in reaching some sort of an understanding on the other. It is the combination of price leadership or price agreement with the delivered price practice that makes such prices noncompetitive. If leadership or agreement were to be abandoned, there would be little reason for selling on a delivered basis, since the practice finds its significance in the enforcement of uniformity. But on the other hand, if delivered pricing were to be discontinued, uniformity through leadership or agreement would be less readily achieved. Each of them contributes to a common plan. Identical delivered prices at each delivery point are the result.

Delivered price practices, common to whole industries, differ in detail. In the single basing point system, only one city in the country is used as a basing point. In the multiple basing point system, two or more such points are employed. Here each firm quotes the purchaser a delivered price which is the sum of the base price and the freight from the basing point nearest him. In the zone price system, uniform delivered prices obtain at all destinations within each of two or more geographical areas, varying from one area to another according to the difference in average freight rates from a common basing point to the several points in each. The zone system is thus akin to the single basing-point device. Under the freight equalization plan, the seller computes his price to any buyer by first adding together the price quoted by the plant nearest the buyer and the freight rate for delivery from that plant and then subtracting from the resulting sum the freight that he himself must pay. This plan partakes of the nature of a multiple basing-point system, with each plant serving as a basing point. Each of these systems rests upon a common understanding in the trade. Each of them contributes to a program which makes price quotations uniform at any point of sale. Each operates, in greater or lesser degree, to raise prices to a level that could not otherwise obtain.

Such systems, in one form or another, have been employed in the sale of asphalt roofing, bath tubs, bolts and nuts, cast iron pipe, cement, coffee, copper, corn products, denatured alcohol, fertilizer, gasoline, gypsum board, industrial rivets, lead, linseed oil, lumber, metal lath, newsprint paper, pig iron, power cable and wire, range boilers, salt, snow fence, soap, steel, stoves, sugar, tiles, turbine generators

and condensers, and zinc, and also, under N. R. A. codes, in the sale of automobiles, automobile parts, bearings, builders' supplies, business furniture, china and porcelain, coal, construction machinery, cordage and twine, farm equipment, food and grocery products, glass containers, ice, ladders, liquefied gas, lime, lye, paint and varnish, paper and pulp, paper bags, ready-mixed concrete, refractory products, reinforcing materials, road machinery, shovels, draglines and cranes, storage and filing equipment, structural clay products, valves and fittings, and vitrified clay sewer pipe.[18]

STEEL

For many years the prices of steel products have been quoted to prospective buyers through a basing point system. This practice had its origin in 1880 when three independent producers began quoting prices identical with those charged by the Carnegie Co. It was applied experimentally to a few products until 1890; by 1900 it had been extended to every concern and every product in the field. In 1901, the United States Steel Corporation was organized, a combination of 12 previous combinations, producing at the beginning 66 percent of the Nation's output of steel. From then on prices were effectively controlled: by open agreements, by pooling arrangements, by the famous Gary dinners, and finally, by price leadership. During 23 years, a single basing point system known as Pittsburgh plus obtained, every firm in the industry quoting its prices from a Pittsburgh base. In 1924, the Federal Trade Commission ordered the corporation to cease and desist from this practice, directing it to quote all prices f. o. b. at its mills. The corporation, replying that it would conform to the order "insofar as it is practicable to do so," thereupon substituted for Pittsburgh plus a multiple basing point system which has been continued, with various modifications, to the present day.[19] This arrangement has now obtained, without interruption and without exception, for so many years that the industry and its customers have adjusted themselves to its existence and its presumed continuance.

The basing point system of pricing steel comprises the following features: (1) leadership by United States Steel in announcing the base prices of standard products and adoption of its announcements by the other firms, (2) agreement upon the extras that are to be charged and the deductions that are to be allowed for variations in size and quality in the pricing of nonstandard products, (3) refusal by all sellers to quote prices on any but a delivered basis or to ship steel to any place other than the one where it is to be used, (4) agreement, in the case of each product, as to the cities that are to be employed as basing points, each seller, wherever located, charging freight from these points, and (5) agreement concerning the method to be used in calculating the delivery charge.

Any producer of steel is formally free to announce a price at any location he chooses, thus establishing his own basing point. In practice, however, the points announced by the dominant corporations,

[18] Hearings before the Temporary National Economic Committee, Part 5, p. 1897; Part 5–A, pp. 2321–2322, 2342, 2345–2346; Burns, op. cit., pp. 282–325. A detailed description of delivered price practices in American industry is included in TNEC Monograph No. 1, Price Behavior and Business Policy, Part II.

[19] Jones, op. cit., ch. 9; Seager and Gulick, op. cit., ch. 13, 14; Federal Trade Commission. Practices of the Steel Industry Under the Code, ch. 3.

notably by United States Steel, are adopted by the other firms. The number of such points employed in quoting prices on the whole group of steel products is large and this fact has sometimes been cited in proof of the contention that the system is essentially competitive. Actually, it proves nothing of the sort, since different points are announced for different products and the number employed in pricing any single product may be small. Since 1938, for example, there have been 10 basing points for plates and hot rolled sheets, 8 for cold rolled sheets, 7 for sheet and tinplate bars and heavy structural shapes, 6 for wire rods and for hot rolled strip, 5 for cold rolled strip, and only 4 for plain wire, as compared with 14 in 1935.[20] In the cases of most products, however, in response to pressure from buyers, from producers with newly developed facilities, and from the Government, the number of points from which prices are quoted has been gradually increased. But there are still important centers which are not employed as basing points for the goods which they produce.[21] It must be noted, finally, that the reduction in freight charges resulting from the establishment of an additional basing point has sometimes been neutralized by the announcement at the new location of a base price containing a differential over that announced at other centers which has canceled the saving involved. Such a location thus becomes a basing point in name only.

Regardless of the method of transportation actually employed, the calculation of freight is usually based upon the assumption that steel is to be shipped by an all-rail route. Water or motor carriage may be available at lower costs, but only in exceptional cases is their existence recognized. If a buyer insists on taking delivery at the mill in his own truck, the custom has been to allow him a discount of 65 percent from the usual transportation rate.[22] He pays the other 35 percent although he hauls the goods himself. Where other shipments by water or motor carrier are permitted, the industry agrees upon the amount that must be taken as the lowest delivery charge.[23] Rail rates, together with these exceptions, are compiled by the Traffic Committee of the Iron and Steel Institute and published in an official "Freight Tariff" which is used by all sellers in place of the schedules issued by the roads themselves. When new freight schedules are announced, sellers await the committee's authorization before employing the altered rates in computing their quotations.[24] Since steel which is shipped by water or by highway is often sold at a price which includes an all-rail charge, the arrangement is obviously profitable to the industry. But this does not appear to be the only reason for the all-rail rule. If no common mode of transportation were agreed upon, a seller might cut his price on the ground that a cheaper method was available, whether it was or not. If competitive pricing were to be avoided, the industry would have to check all such quotations in great detail. With a uniform schedule of freight rates, based upon a common method of delivery, this door to competition in price is closed.

In conformity with the prevailing system, the producer of steel employs the following procedure in computing the price that he will

[20] Hearings before the Temporary National Economic Committee, Part 18, p. 10413.
[21] Federal Trade Commission, An Analysis of the Basing Point System of Delivered Prices (mimeo., 1940), p. 43.
[22] Cf. Hearings before the Temporary National Economic Committee, Part 5, p. 1875.
[23] Federal Trade Commission, op. cit., p. 19.
[24] Hearings before the Temporary National Economic Committee, Part 5, pp. 1874, 1876.

quote: (1) He ascertains the base prices for a standard product that have been announced at a number of basing points. In doing this, he follows the announcements of United States Steel. (2) In the case of a nonstandard product, he adds to or subtracts from these prices the extras or deductions which are charged or allowed for variations in size and quality. In doing this, he adopts the figures that have been agreed upon by members of the industry. (3) He adds to the base prices (plus or minus the extras or deductions) freight charges from various basing points to the point of delivery. In doing this he consults the same schedule of rates that is used by his competitors. (4) He selects the smallest total as his price. Since every seller employs the same formula and since every item in the formula is standardized, whether by price leadership, by agreement, or by other factors which the seller cannot control, the result must be the same in every case. As a consequence, when the system is working without interference, every seller of any steel product quotes to any buyer an identical delivered price.

The system is thus essentially noncompetitive. When a producer makes a shipment by a cheaper method of transportation than that assumed in the computation of his price and when he makes a charge for delivery from a basing point which is farther from the buyer than is his own establishment, he collects "phantom freight." His ability to do so arises from the fact that other producers employing the cheaper means of transportation and those located closer to the buyer make no attempt to undercut his price. When he makes a charge for delivery from a basing point which is nearer to the buyer than is his own establishment, he "absorbs" freight. His ability to do this must be attributed to the fact that the whole level of prices established by the system is high. When a producer is not located at the basing point from which he quotes his prices, his "mill net realization" varies with the amount of "phantom freight" and "freight absorption" involved in different sales. This variation, again, results from the fact that distant producers do not undercut the prices which he quotes on sales made in the area adjacent to their mills, while he sets his own prices at figures which enable them to sell in the area which would otherwise belong to him. "Cross-hauling" and the "inter-penetration of market territories" show that each seller is voluntarily foregoing his competitive advantages in order to support the system as a whole. Sellers who are close to consumers do not underbid those who are far away. Sellers who are located on waterways charge an all-rail freight. Sellers whose efficiency is high ask prices which enable the less efficient to survive. Such behavior cannot be said to be competitive.

Economists who have studied the problem have disagreed as to the causation of the basing point price practice, some of them holding it to be the consequence of conditions of demand, technology, and cost inherent in the production of steel,[25] others finding its origin in the profit-seeking propensities of those who held the power to impose it on the industry.[26] They have also differed concerning the relative desirability of this system and other possible methods of pricing steel. But they have agreed, almost without exception, that the system is essentially monopolistic in character. Daugherty, de Chazeau, and

[25] Cf. C. R. Daugherty, M. G. de Chazeau, and S. S. Stratton, The Economics of the Iron and Steel Industry (New York, 1937).
[26] Cf. F. A. Fetter, The Masquerade of Monopoly (New York, 1931).

Stratton conclude that: "The economic fact, which cannot be legislated away, is that we are dealing with an industry in which free competitive price equilibrium is not economically possible." [27] And Professor de Chazeau testified before the T. N. E. C. that: "Prices of these materials * * * are either reflections of price decisions by managers who themselves are in control of the predominant proportion of the country's steel capacity or are determined by bargaining in a very narrow market." [28] Professor Frank A. Fetter told the committee that, as a means of controlling prices, "the basing point practice is by far and away the most successful single device that large American business in these homogeneous products has hit upon in the last 75 years." The effect of this practice, he said, "is that there is no price competition anywhere." The situation is the same as that which would obtain if there were "complete unified ownership of all the mills in the country." The industry proceeds upon "the principle of charging what the traffic will bear." [29] According to the Federal Trade Commission, the "purpose and effect" of the basing point system is "to prevent price competition" and "the prevention of identical delivered prices for steel is, in the Commission's opinion, necessary for the restoration of competitive conditions." [30] The Commission has come to "the conclusion that the basing point system in the steel industry is the negation and frustration of price competition." [31]

While officials of the steel companies have generally denied that the system substantially modifies competition in price, many of their public statements indicate that they understand and favor the noncompetitive conditions which it entails. Thus Mr. Robert Gregg, vice president of United States Steel, told a committee of the Senate in 1936 that if the basing point plan "were universally followed there would be no competition insofar as one element of competition is concerned, namely, price." [32] And when prices were changed in 1938, Mr. Grace was reported to have said that "the situation was competitive" and to have expressed the hope that it had been "cured." [33] The statements of the executives who appeared before the T. N. E. C. are replete with references to the iniquity of cutting below announced prices, the desirability of "meeting" but no more than "meeting" competition, the need for "stabilized" prices, the impossible situation which would be created by daily fluctuations in price, the importance of looking at price reductions "from the point of view of the industry as a whole," the desirability of discussing price changes with customers before they are announced, the need for an agreement under which no company would quote any price below its own cost plus a fair profit, the unfairness of a price which includes no profit, and the desirability of prices which would permit profitable operation at 35 percent of capacity. These attitudes are not without significance, since they constitute the frame of reference within which major decisions as to policy are made.

[27] Daugherty, and others, op. cit., vol. 1, p. 578.
[28] Hearings before the Temporary National Economic Committee, Part 19, p. 10478.
[29] Ibid., Part 5, pp. 1939–1940.
[30] Ibid., p. 2199.
[31] Federal Trade Commission, op. cit., p. 77.
[32] Hearings before the Committee on Interstate Commerce, U. S. Senate, 74th Cong., 2d sess., on S. 4055, p. 207.
[33] New York Times, October 28, 1938, quoted in Hearings before the Temporary National Economic Committee, Part 5, p. 2194.

Against the weighty evidence that the basing point system eliminates competition in price, its defenders offer one significant argument. They contend that announced base prices are merely official asking prices and that many sales of steel are individually negotiated at lower figures. They further insist that when actual prices fall and remain below those officially announced, revisions in the announcements cannot be avoided and usually do occur. It is difficult to evaluate the significance of this contention on the basis of any evidence that is now at hand. The Federal Trade Commission takes the position that:[34]

> Without an investigation of sales records directed specifically to the above subject, there is no way of providing an answer that is dependable. The general opinions of parties interested in defending the basing point system are almost certain to exaggerate the number, proportion, and degree of departures from the system. Competitors are likely to have an honest but exaggerated idea of the departures made by their rivals and may unduly minimize their own. Yet departures undoubtedly occur, sometimes unintentionally and sometimes intentionally.

There is no evidence, however, that such departures occur often enough or persist long enough to establish effective competition in price as a normal characteristic of the industry. According to the Commission:[35]

> With occasional lapses, the system works, and the buyer normally receives identical quotations from all bidders * * *. Occasional variations from this perfect identity are observed, but only during short periods when there was a temporary flurry of price cutting * * *. The available evidence indicates that secret violation of the identical delivered price system is seldom of such importance as to prevent the general economic effects of controlled prices.

Certainly the fact that the prices which are established under the basing point system are occasionally shaded cannot be taken as proof that the system itself is competitive. Sporadic competition apparently involves little more than temporary departures from the pattern of uniformity which normally obtains. If this were not the case, it would be difficult to explain the industry's obvious reluctance to abandon its use of common basing points in favor of any other plan. It is contended, for instance, that buyers of semifinished steel, in selecting the most economical location for fabricating plants, have assumed that the system would be continued substantially in its present form, and it is argued that abandonment of the system would "disrupt" the industry and destroy property values that have been built up on the assumption that it would be retained. If these contentions are sound—and there is no reason to doubt them—they indicate that those who offer them in defense of the system of basing points believe that the pattern of prices which obtains under this system is substantially different from the one that would replace it if the system were to be abandoned or materially revised. If the basing point system, throughout its history, had permitted effective competition, it would be impossible to argue for its continuance on such grounds as these.

Steel prices have been relatively inflexible. Steel rails, delivered to the railroads at the mills, sold for $28 a ton from May 1901 until April 1916 and at $43 a ton from October 1922 until October 1932. The prices of sheets, tank plates, bars, beams, wire, wire nails, and many other products, though not as rigid as the price of rails, have

[34] Federal Trade Commission, op. cit., p. 24.
[35] Hearings before the Temporary National Economic Committee, Part 5, p. 2192.

stood unchanged for months and years at a time.[36] From 1929 to 1932, while production fell off 76 percent until, in August 1932, only 12 percent of the country's blast furnace capacity was in use, the average reduction in the prices of iron and steel products was only 16 percent.[37] The price of tin plate was cut less than 12 percent, that of structural steel less than 11 percent, that of steel rails only 1.4 percent, and that of bar iron at Pittsburgh not at all.[38] In 1933, when the price index for all commodities stood at 65.9 percent of its average in 1926, the index for finished steel stood at 80.5 percent. In 1938, when the index for all commodities had risen to 78.6 percent, that for finished steel had climbed to 99.2 percent.[39]

Steel profits in recent years have not been high. Data collected by the Iron and Steel Institute indicate that the industry—[40]

> earned an average return of 5.20 percent on capital invested during the entire period 1909 through 1938 or an average of only 5.47 percent in the pre-war years through 1914, 11.69 percent during the war boom, 5.73 percent in the post-war period, 1919 through 1929, and only 1.65 percent during the years since the 1929 slump.

The 10 leading producers of steel realized 7.53 percent on invested capital in 1937, 0.87 percent in 1938, and 5.02 percent in 1939. While the profits of certain other companies, such as the National Steel Corporation and the Inland Steel Co., have been consistently high since 1933, running in some years from 10 to 14 percent on invested capital, those of United States Steel have been low. The corporation lost 0.57 percent on its capital in 1934, made 0.60 percent in 1935, 3.97 percent in 1936, 7.55 percent in 1937, 0.23 percent in 1938, and 4.1 percent in 1939.[41] These figures are in decided contrast with those reported in earlier years. The corporation was originally capitalized at $1,402,000,000; of this, $682,000,000 represented the value of the tangible properties included in the combination; the other $720,000,000 was water. From 1901 to 1910 the corporation realized an average annual return of 12 percent on the value of its physical assets, paid moderate dividends, and reinvested $500,000,000 of its profits in the expansion of its plant, thereby wringing much of the water out of its original capitalization. By 1926, it had obtained profits aggregating $2,345,000,000, paid total dividends amounting to 131.25 percent of the par value of its stock, and set aside more than a billion dollars in reserves.[42] The lower profits of recent years, however, carry no suggestion that the industry has become effectively competitive. The prevailing system of arrangements has undoubtedly encouraged overexpansion, provoked such uneconomic expenditures as those involved in the practice of cross-hauling, and compelled producers to carry a heavy burden of idle capacity. A low return on capital is entirely consistent with a monopolistic pricing policy.

CEMENT

The price of cement is governed by a system of multiple basing points. This system differs in certain respects from that employed in

[36] Burns, op. cit., pp. 205–212.
[37] National Resources Committee, op. cit., p. 386.
[38] Ibid., p. 194.
[39] Hearings before the Temporary National Economic Committee, Part 18, p. 10421.
[40] Ibid., p. 10423.
[41] Work Projects Administration, Securities and Exchange Commission, Survey of American Listed Corporations, vol. 1 (New York, 1940), pp. 265–268, 275, and supplement (1940).
[42] Jones, op. cit., ch. 9; Burns, op. cit., p. 88.

pricing steel. There is no single price leader in the industry. The product is highly standardized and the need for agreement on extras and deductions does not arise. The number of basing points is larger than in the case of any variety of steel; there are some 60 basing points for cement and half of the mills in the country are located in their vicinity. In other respects, however, the two systems are essentially the same. Terms of sale, including such matters as the effective period of price quotations, discounts, and charges and credits for sacks and containers, are uniform. Prices on all sales other than those made to the railroad companies are quoted on a delivered basis from common basing points and such quotations include a charge for all-rail freight. Each seller foregoes the competitive advantage inherent in his location, making no effort to undercut the prices charged by distant firms on sales in territory adjacent to his mill. The delivered prices quoted by different sellers at any one time are identical and the prices announced over long periods display a marked rigidity.

Base prices for cement are established through regional price leadership. Any producer, wherever located, can create a new basing point by quoting prices from that point. Any producer, likewise, can take the lead in establishing a new base price at any basing point by announcing his readiness to make sales to all buyers at such a price. A single seller within a region may customarily initiate every change in price. None of the other firms can announce a higher price unless he does so and all of them must follow when he makes a cut. As long as they also copy his increases and refrain from initiating decreases, he retains the lead. But when another firm fails to follow him upward or makes a price cut on its own account, leadership passes into other hands. It must not be concluded, however, that responsibility for cutting prices is lightly to be assumed. The lower figures announced by one seller are promptly met by all the others, as the Federal Trade Commission has observed:[43]

> Current basing-point prices are common knowledge to all cement manufacturers. Each sales manager keeps himself thoroughly posted on the basing point price at each basing point. Information of any change in delivered prices by a manufacturer reflecting a change in its basing point price usually finds its way to the officials of all competing companies within a few hours after it has been made. The usual result is the immediate issuance of similar quotations by all manufacturers.

The producer who initiates a lower price does not get a larger share of the business. He may even run a certain risk. If his location has not been a basing point, other firms may make it so by quoting prices there. If he maintains his price at home, and cuts his quotation from some distant basing point, they may retaliate by announcing lower prices at his point or at points in his vicinity. In either case, they cut the income he receives on the most remunerative portion of his sales. The industry may even establish an arbitrary delivered price zone in territory near his mill, selling in this one area at prices lower than the basing point formula would otherwise permit. At one time or another each of these devices has been employed in punishing producers who presumed to undercut the prevailing price.[44] The published reports, however, do not indicate that such tactics have been

[43] Federal Trade Commission, Cement Industry, p. xii.
[44] Ibid., pp. 2, 45–46; idem., Price Bases Inquiry, pp. 91–92.

adopted as a result of agreement among the members of the industry. As the editors of Fortune have concluded—

> it is reasonable to suppose that cement prices remain steady not because of collusion but because the little fellows in the industry know what is good for their economic health.[45]

The consequent reluctance of most producers to incur the risks of regional leadership thus operates to prevent effective competition in price.

The procedure employed in pricing cement is similar to that which is used in pricing steel. In calculating the figure that he will quote to any buyer, the producer determines the base price prevailing at the basing point from which that buyer can get the lowest delivered price quotation. He then adds to this price the all-rail freight from the basing point to the buyer's destination and quotes the result as his delivered price. Since there are some 60 basing points and since a different mill may take the lead in quoting prices at any one of them, there are some 60 possible prices for cement. But since every seller adopts as his own the price announced at the same basing point, and since every one of them charges for delivery from this point over the same all-rail route, the buyer receives identical quotations from every seller to whom he turns.

With cement, as with steel, the all-rail rule contributes to the maintenance of uniformity. On the average shipment of cement, the charge for delivery constitutes almost a fifth of the delivered price.[46] Transportation by boat and by truck is frequently available at less than rail rates. If delivery charges were not standardized, sellers employing such carriers or professing to do so could undercut the prices set by those who shipped by rail. This sort of competition is prevented by the all-rail rule. The only important exception to this formula has been made in the case of coastal ports where dealers have been granted lower prices in order to enable them to compete with cement imported from abroad.[47] According to the Federal Trade Commission, the Cement Institute, in its administration of the requirement, has prepared and circulated rate books which the industry employs in preference to the schedules issued by the roads themselves, has prohibited the use of rates published in new schedules until they have been approved, has made it impossible for the Federal Government to take advantage of the favorable rates to which it is entitled on land-grant railroads, and has attempted to eliminate transportation in buyers' trucks of cement bought f. o. b. at the mills.[48] These arrangements are fortified by a rule which prevents buyers from diverting shipments in transit from one destination to another when the operation of the system would make it advantageous for them to do so.

There is abundant evidence that the prices established under this system are noncompetitive. Quotations have been identical, no seller attempting to undercut another's bid.[49] Sales have been made in dis-

[45] Fortune, May 1938, p. 122.
[46] Federal Trade Commission, Price Bases Inquiry, pp. xiv, 19, 166.
[47] Idem, Cement Industry, p. 46.
[48] Idem. Price Bases Industry, pp. 25, 99–100, 103–104; Cement Industry, pp. 35–36, 100; Complaint, Docket No. 3167 (1937), pp. 14–16.
[49] Idem. Price Bases Inquiry, pp. 55–81: Complaint, pp. 10–13; Procurement Division Group, Treasury Department Subcommittee, Temporary National Economic Committee, Study of Government Purchasing Activities (1939), p. 89.

tant territories that sellers could not have entered unless the mills located there had acquiesced, and sellers have reciprocated by permitting distant mills to sell in their vicinities. Different sums have been realized on identical quantities sold to buyers located at varying distances from the seller's plant.[50] Heavy costs have been incurred in the cross-shipment of cement.[51] Prices have been rigidly maintained over long periods of time.[52] From 1926 through 1933, the price of cement showed only 15 month-to-month changes in 95 months.[53] From 1929 to 1932, while production fell off by 55 percent, the price was cut by only 16 percent.[54] In 1933, when shipments were smaller than they had been in years, the price began to rise and by July surpassed the figure reached in 1929. From 1933 to 1940, despite the fact that the industry was producing only 37 to 71 percent of its 1929 output and operating, in 1934 and 1935, at only 30 percent of its capacity, the newly established level was effectively maintained.[55] Profits, however, have been moderate, perhaps because the gains resulting from the system have been canceled by the costs which it entails. But eight of the leading producers made 5.94 percent on their invested capital in 1937, 4.07 percent in 1938 when half of the industry's plant was standing in idleness, and 7.4 percent in 1939.[56]

The Federal Trade Commission issued a complaint against the Cement Institute and 75 member corporations in 1937, charging that the basing point system constituted a violation of the Federal Trade Commission, Clayton, and Robinson-Patman Acts. According to the complaint:[57]

> The effect of the adoption, continuance, and maintenance of the said pricing system, to the extent that it has been and is followed, has been and is completely to destroy competition in price. * * *
>
> * * * Under the said pricing system, delivered prices are charged by respondent producers with little regard to the varying local conditions of supply and demand. Said prices are made through a concert of action, which is formulated and expressed in terms of the said pricing system and applied throughout most, if not all, of the country. Thus respondents maintain, against thousands of private and public consumers in many parts of the United States, an artificial price level little related to and not governed by truly competitive conditions. The result is higher base prices and higher delivered prices to the consuming public.

A final disposal of this case is still pending.

The arguments that have been advanced in support of the system are not persuasive. It has been pointed out, for instance, that every buyer of cement gets price quotations from more producers than he would if sales were made f. o. b. at the mills. While this is undoubtedly true, it cannot be said to prove the existence of competition, since each quotation is like every other one and all of them are set at a level which is high enough to cover the costs of the cross-hauling involved in the interpenetration of markets. Members of the industry sometimes describe their pricing policy as one of "meeting competition." But it is sophistry to argue that the reciprocal sharing of markets and the

[50] Federal Trade Commission, Price Bases Inquiry, pp. 43–55.
[51] Ibid., pp. 134–146.
[52] Ibid., pp. 81–87.
[53] National Resources Committee, op. cit., p. 195.
[54] Ibid., p. 386.
[55] Bureau of Labor Statistics, Index Numbers of Wholesale Prices of Portland Cement (mimeo.) 1939; Monthly Labor Review, June 1939 to June 1940; Commodities in Industry (1940), pp. 96–97. Fortune, March 1938, p. 122.
[56] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 3, pp. 249–251, 254, and supplement.
[57] Complaint, Docket 3167, pp. 18–19.

common use of a basing point formula in calculating delivered prices is "meeting competition." It is meeting the price of a regional price leader whose pricing practice is unlikely to be competitive. It may be true, as one prominent producer, a trustee of the Cement Institute, has put it, that "ours is an industry above all others that cannot stand free competition, that must systematically restrain competition or be ruined." [58]

CAST IRON SOIL PIPE

Cast iron soil pipe is a standardized foundry product manufactured from pig or scrap iron and used chiefly for plumbing and the disposal of waste. Some 400,000 to 500,000 tons are produced annually by 45 companies operating 65 foundries. A trade body, the Cast Iron Soil Pipe Association, has a membership of 35 concerns which account for more than 90 percent of the total output. The industry originated at Birmingham, Ala., and 65 percent of the output is produced within 75 miles of that city, while the remainder comes from plants which are scattered throughout the United States. Not more than a tenth of the pipe manufactured in Alabama, however, is sold in the South. For many years the industry has priced its product under a single basing point system. The weight and bulk of pipe are such that the cost of transportation constitutes a substantial part of the delivered price.

In 1937, the Federal Trade Commission issued a complaint in which it charged that the basing point system operated "to hinder, lessen, restrict, and restrain competition, and particularly competition in price." [59] As described in this document, the system involves the quotation of all prices on a delivered basis, the selection of Birmingham as the only basing point, and the adoption of a common base price which is "arbitrarily postulated" by the industry. Thus, "throughout most, if not all, of the United States," the delivered price quotation is the Birmingham base price plus freight from Birmingham to the point of delivery. As a result, each buyer receives identical quotations from every seller. Each producer is able to "sell at the location or in the vicinity of the foundries of other producers without encountering any actual price competition from such other producers." Plants located outside of Birmingham collect "phantom freight" on shipments on which they pay a rate that is lower than that from Birmingham and "absorb" freight on those on which they pay a rate that is higher, realizing different sums on sales to buyers located at different points. Shipments cross as each producer sells into another's territory. Foundries outside of Birmingham abstain from turning the advantage of location to account in making sales and efficient foundries refrain from translating their lower costs into a lower price. The Commission charges that such practices "actually have unduly, directly, and substantially hindered, lessened, restricted, and restrained, price competition in interstate commerce in said pipe" and that they have "increased the prices of said pipe to the public." The proceeding awaits final determination.

[58] Ibid., p. 17.
[59] Complaint, Docket 3091.

PATENTS

A patent confers upon its holder for a limited time the exclusive right to make, use, and sell the patented product or device. It permits him to transfer this right to others or to retain it for himself, to employ it in production or to withhold it from use. In short, it grants him a monopoly. The courts, however, have been unanimous in holding that such a grant does not carry with it exemption from the provisions of the antitrust laws. They have therefore been compelled to draw a line between the exclusive privileges conferred by patents and the statutory prohibitions against restraint of trade. If drawn in principle, this line might be clear; drawn in individual cases, it is necessarily wavering and blurred. The resultant "general confusion both at the bar and in contemporary legal literature as to the scope of the rights granted by a patent and the strictures of the antitrust laws" [60] has created a "no-man's land" within which patents have been used as a means of subjecting prices and production to monopolistic control. It is with the economic rather than the legal aspects of this development that we are here concerned.

Although the agencies of government, in their administration and interpretation of the patent laws, may preserve strict neutrality in dealing with different applicants for patent rights, inequality in the financial resources of such applicants may operate to the advantage of the stronger firms. While patent fees are low and the Patent Office and the courts will grant no special favors to large concerns, the complexity of the system creates potentialities of endless litigation and threats of litigation in which the party with the best legal talent is likely to be victorious.[61] Thus a powerful patentee may be able to defeat the attempt of a small competitor to obtain or use a patent that would cut into the area of privilege which he holds. Interference proceedings may force the smaller firm to sell a pending application at the buyer's price. Infringement suits may compel a weaker company to transfer its patents to a stronger one. Exclusive rights thus tend to gravitate to large concerns, regardless of the legal status of

[60] M. Feuer, "The Patent Monopoly and the Anti-Trust Laws," Columbia Law Review, vol. 38 (1938), p. 1147.

[61] Alfred E. Kahn, writing on "Fundamental Deficiencies of the American Patent Law" in the American Economic Review, vol. 30, pp. 475–491, September 1940, says:

"Only two groups are likely to gain from this welter of useless patents: patent lawyers who thrive on litigation and the taking out of patents; and unscrupulous businessmen who hold patents and can afford suit or threats of suit regardless of the merits of the case and who have here a legal method of unfair competition. The great research laboratories are only incidentally technological centers. From the business standpoint they are patent factories: they manufacture the raw material of monopoly. Their product is often nothing but a 'shot-gun,' a basis for threatening infringement suit and scaring off competitors; or a 'scare-crow,' a patent which itself represents little or no contribution but seems, at least prima facie to cover an important part of a developing art and hence permits threat of suit.

"Beyond the 'shot-gun' and 'scare-crow' techniques, there is a third monopolistic method: the 'drag-net,' whereby corporations and individuals keep alive at the patent office great numbers of applications covering all potential developments in the field, revise those applications to cover any new competitive devices subsequently developed, and then take out the patents as their own and sue to protect them. The 'drag-net' is also a means of involving competitive patent applications in the long and costly interference proceedings of the Patent Office. Hence many individuals and corporations seek as a matter of course to keep applications pending as long as possible. Tardy response to Patent Office letters and requests to revise, the intentional filing of faulty applications which will require much correspondence about revision, are the chief methods * * *

"The delay and expense of interference proceedings and infringement suits (and hence the potency of a mere threat to sue), the mass of useless patents (and hence the possibility of 'drag-net' applications, or 'shot-gun' and 'scare-crow' patents), all play into the hands of the powerful and the unscrupulous who know how to profit by the deficiencies of the law. All this puts a premium on wealth. The patent field is one where sheer economic power often counts for as much as does the worth of the patent to the progress of science and the useful arts." (Pp. 485–486.)

their claims. Moreover, the holder of a basic patent may be the only buyer to whom patents on improvements can be sold. During the life of the basic patent, he may command the field. Upon its expiration, his dominant position, fortified by his ownership of patents on improvements, may make it difficult, if not impossible, for others to compete. The system, in its operation, may thus involve a wider area and a longer tenure of power than those envisaged by the framers of the law.

The patentee who licenses other firms to operate under his patent rights may include in his contracts provisions which are designed to preserve, strengthen, and extend his monopoly. He may prescribe the quantity that his licensees may produce, the territories in which they may sell, the customers with whom they may deal, and the prices which they must charge, thereby limiting their freedom to compete. He may insist that they buy exclusively from him, thereby restricting the market available to his competitors. He may require them to buy unpatented materials from him, thereby extending his control into fields where his patent does not apply. His power to refuse or withdraw licenses may thus be employed as a weapon whereby varying degrees of power over the markets for various products may be acquired.

In industries where essential patents are owned by several firms, each of them may grant licenses to all of the others or all of them may transfer their patents to a common pool. Under such a plan, improvements in products and processes resulting from invention are made available to all of the participants and costs are reduced by eliminating litigation within the group. If unrestricted licenses are granted to all applicants on reasonable terms, cross-licensing and patent pooling do not contribute to monopoly. But these arrangements, too, may be abused. The group may employ its combined resources in litigation designed to exclude outsiders from the field. It may refuse licenses to nonmembers or grant them only on onerous terms. It may attempt to limit output, allocate markets, and control the prices charged by licensees. Here, again, patents serve as a weapon whereby competition may be destroyed.[62]

Market control through patents has been found by the courts to have existed, since 1920, among producers of ophthalmic lenses, porcelain insulators, radios, and gasoline,[63] and is asserted in current complaints to have existed among producers of ophthalmic frames and mountings, gypsum board, hardboard, and mineral wool.[64] It has

[62] According to Kahn: "A pool of numerous patents, backed by the wealth, prestige, and vested interest of a well-organized industry, is a potent weapon. The temptation is great to use the pool as a legal foundation and instrument for the preservation of monopoly—a monopoly, be it noted, not over some innovation or series of innovations but over an entire industry.

"The licensing or cross-licensing agreement frequently becomes the instrument for exclusive tactics, for 'stabilizing the industry' by restricting the entrance of outsiders through refusal to license. Or it may be used for production control by license stipulations. Or the participants may divide the field among themselves, each getting a segment of the industry or of the territorial market. The result in any event is usually to change the patent from a limited 17 year monopoly over particular inventions to a perpetual control over an industry." (Ibid., pp. 487–488.)

[63] Federal Anti-trust Laws, cases 273 and 299, 305, 371, and 422, respectively.

[64] Cf. supra, p. 141 and infra, pp. 161–165. Another indictment returned in the District Court of the United States for the Southern District of New York on August 29, 1940, in the case of *U. S.* v. *American Colloid Company et al.*, charges three producers of bentonite (an inorganic natural clay or earth employed in the foundry trade in the preparation of molds used in making various types of metal castings) with obtaining control of three patents which covered the use of this product in combination with other materials, and with employing these patents, through threats of litigation and refusal to grant licenses, as means of monopolizing the production and sale and fixing the price of bentonite itself.

made its appearance in the glass container field, where the Hartford-Empire leases have contributed to the suppression of competition by limiting the number of firms permitted to produce each type of ware, by imposing restrictions on the output of certain licensees and on the prices they may charge, and by supporting the system of price leadership which prevails throughout the trade.[65] As is shown elsewhere in these pages, it has existed, too, among producers of aluminum, shoe machinery, optical glass, telephone equipment, electric lamps, electric accounting machines, air brakes, sulfur, asphalt shingle and roofing, and elevators.[66]

RADIOS

In the early twenties, radio patents owned by the General Electric Co., the Westinghouse Electric & Manufacturing Co., the American Telephone & Telegraph Co., and the United Fruit Co. were placed in a common pool under the control of the Radio Corporation of America. The pool contained some 4,000 patents, covering virtually every device in the field, including the de Forest tube. Both General Electric and Westinghouse owned stock in R. C. A.; both of them were represented on the board of R. C. A.; both of them made sets for sale by R. C. A. The Radio Corporation, in turn, granted licenses to other manufacturers. At first these licenses were limited to firms whose total royalties would amount to $100,000 per year and a fee equal to 7½ percent of its value was collected on each set. No licenses were granted for the manufacture of tubes, licensees being required to equip their sets with tubes made by R. C. A. In time, however, friction with licensees and a court decision outlawing the tube requirement led to modification of the licenses. The minimum royalty was reduced to $10,000, the fee per set was cut to about 5 percent, and, in 1929, other makers of tubes were licensed under R. C. A. patents.

In May 1930 the Department of Justice entered suit against the members of the pool, charging that they had ceased to compete among themselves; that they had refused, individually, to grant licenses to other manufacturers; that they had agreed to include their future patents in the pool; that they had exacted burdensome royalty payments; that they had been able to dictate prices and terms to the producers of 95 percent of the radio apparatus made and sold in the United States; and that their collective threat to bring suit against alleged infringers had excluded from the industry all firms but those who accepted the conditions they laid down.[67] In November 1932 a consent decree was filed. General Electric and Westinghouse were ordered to dispose of their stock in R. C. A. and remove their representatives from its board. The exclusive cross-licensing of patents was enjoined, thereby opening their use to other producers on reasonable terms.[68] Since this decision, there has been every indication of active competition in the industry.

ETHYL GASOLINE

The Ethyl Gasoline Corporation is owned jointly by the Standard Oil Co. of New Jersey and the General Motors Corporation, which

[65] Cf. supra, pp. 75–77.
[66] Cf. supra, pp. 70, 72, 78, 84–85, 104–107, 109, and infra, pp. 246, 252.
[67] Cf. Commercial and Financial Chronicle, May 17, 1930, pp. 3440–3443.
[68] Cf. ibid., November 26, 1932, pp. 3632–3633.

in turn is controlled by E. I. du Pont de Nemours Co. It is the sole distributor in the United States of a patented fluid, chemically known as tetra-ethyl, which, when injected into "straight" gasoline, renders that fuel comparatively "knockless." The corporation has licensed all but one of the 124 leading refiners to use the ethyl compound. Its contracts formerly required refiners to sell "anti-knock" gasoline at a fixed differential over "straight" gasoline and forbade them to sell it to any but a licensed jobber. Every one of the 11,000 jobbers who distributed ethyl gasoline was thus compelled to obtain a license from the corporation and no license was granted unless the jobber agreed to abide by a "code of ethics," the provisions of which bound him, in effect, to follow the price policies of the major oil companies.

In 1938 the Department of Justice initiated proceedings against the corporation for the purpose of preventing it from using its licenses to control the policies and prices of jobbers. The Department did not question the corporation's right to impose conditions controlling the sale of ethyl gasoline by refiners, but it contended that this right did not extend to subsequent sales. In March 1940 the United States Supreme Court found the defendant guilty of violating the anti-trust laws, asserting that the corporation, "by the leverage of its licensing contracts resting upon the fulcrum of its patents" had "built up a combination capable of use and actually used as a means of controlling jobbers' prices and suppressing competition among them." Since "the regulation of prices and the suppression of competition among the purchasers of the patented articles" was not "within the limits of the patent monopoly," the practice of requiring jobbers to take out licenses was enjoined.[69]

GYPSUM BOARD

Gypsum, consisting of calcium sulphate combined with water, is an abundant, easily mined, and widely deposited rock, which, when ground and dehydrated, is made into plaster, plasterboard or plaster lath, and wallboard. The techniques involved in the calcining and further processing of raw gypsum are relatively simple. Animal hair or vegetable fiber are added to the gypsum to make plaster, the process being unpatented. Plasterboard and wallboard are basically alike, each consisting of a flat core of gypsum enclosed, by a patented process, in a paper wrapper. Plasterboard is nailed to wall joists as the base for plaster, serving, therefore, as a substitute for wood or metal lath. Wallboard is used as the outer surface of the interior walls of buildings and is made in a variety of finishes, one of which, "tiled" wallboard, is coated with a layer of enamel or processed paper which is scored to simulate tiles. While nearly all plaster, plasterboard, and wallboard is used in building construction, small amounts find other industrial uses. In 1937, the industry produced calcined products valued at $36,900,000, of which $35,500,000 represented sales for building purposes. Of the latter, sales of plaster accounted for nearly half of the total, while plasterboard and wallboard each constituted one quarter.

During recent years, a marked concentration in the production of calcined gypsum has occurred as the larger producers have bought the plants of smaller firms. In 1928, there were 30 companies operat-

[69] 309 U. S. 436.

ing 67 plants; by 1939, there were 21 companies operating 56 plants. The United States Gypsum Co. had acquired 10 concerns, bringing under its ownership 36 percent of the establishments. The National Gypsum Co. had purchased 4 concerns and 2 of these had previously bought out 4 others. In 1937, the 3 largest producers accounted for 79 percent, by value, of the total output of calcined gypsum, the fourth producer accounting for only 2 percent. A higher degree of concentration undoubtedly obtains within regional markets. Only 8 concerns were engaged in the production of plasterboard and wallboard in 1938 and 2 of them were under common control. United States Gypsum produced 57 percent of the total output in 1937, National Gypsum produced 19 percent, and the Certain-teed Products Corporation produced 11 percent; altogether 87 percent of the total supply was in the hands of the 3 largest firms.

United States Gypsum has dominated the gypsum board industry through patent ownership. In 1912 the company acquired two patents which covered the process of closing the edges of gypsum board by folding the bottom cover sheet over the edge of the board and then affixing the top cover sheet. These patents, remaining in force until 1929, were valuable, because closed-edge board was preferred to open-edge board, since it was less likely to chip at the edges during shipment or installation. In 1920 the company acquired another patent, running until 1937, which covered the process of closing the edges of the board by imbedding the ends of both covers in the body of the core. In 1926, following extensive litigation, it took over some 30 other patents and applications from the Beaver Products Co. In 1924 and 1926, it applied for three patents covering the "Roos tenacious foam process" which involved the use of starch in producing the gypsum core in plasterboard and wallboard. Patents on this process, which the company has employed since 1924, were granted in 1935 to 1937 to run until 1952 to 1954. Conflicting patents, covering the use of starch in wallboard filler, owned by the Universal Gypsum & Lime Co., were acquired from its receivers in 1929 and supported United States Gypsum in its control of the industry until the first of the Roos patents was issued in 1935.

The company has granted licenses under its patents to all of the manufacturers of gypsum board but one small firm, thus collecting royalties on 95 percent of the board produced in the United States. It has employed these licenses as a means of controlling prices in the trade. Its contracts have required its licensees to sell on a delivered basis under a multiple basing point system and to observe the minimum prices which it prescribes. Since 1929 the company has issued price bulletins and in 1932 it established a special department to investigate violations, thus attempting to prevent licensees from granting secret concessions to purchasers. Half of Gypsum's revenue is derived from unpatented building materials and it has sought to discourage the practice of cutting prices on such goods in transactions where the sale of patented and unpatented products was combined. Its pricing policy also appears to have been influenced by the fact that high prices for plasterboard may lead builders to use wood or metal lath. Although the cost of plasterboard is probably not more than $1 per 1,000 square feet below that of wallboard, it has been sold at prices from $10 to $13.50 below the wallboard price. This policy has preserved the mar-

ket for the eight manufacturers of plasterboard, seven of whom are Gypsum licensees. But since less plaster is used with plasterboard than with wood or metal lath, it has operated to the detriment of 14 companies producing gypsum plaster but no plasterboard.

The prices of gypsum products have been effectively maintained. While the index for building materials fell more slowly and rose more rapidly during the 1930's than did the index for all commodities, the indices for calcined gypsum products were at times more than 30 points higher than the figure for the whole building materials group. In 1932, when all building materials stood at 71 percent of the price for 1926, base coat plaster stood at 120, plasterboard at 98, and wallboard at 112. This pricing policy has been productive of ample profits. In 1928, United States Gypsum reported that board produced in one of its plants at a cost of $10.50 per 1,000 square feet yielded a profit of $11.09 per 1,000 square feet. It is estimated that even during the worst years of the depression it was necessary for the company to operate its plants at only 14 percent of capacity in order to break even. Although its share of the industry's sales has declined in recent years, Gypsum has prospered. The company made $28,000,000 from 1931 through 1938, nearly $5,000,000 in 1938.[70]

The licensing arrangements between United States Gypsum and the other members of the trade have been attacked in three suits brought under the Sherman Act in the summer of 1940. One indictment charges the company with employing the licenses previously described as means of fixing the prices of gypsum board.[71] Another charges Gypsum, Certain-teed, and the American Gypsum Company (which was absorbed by the Celotex Corporation in 1938) with employing licenses under a patent "purporting to cover a gypsum lath with perforations of a certain dimension and number and with a designated spacing relationship" for the purpose of fixing the price of this product, "well knowing that said patent was void and would not support lawful price control by U. S. G."[72] The complaint in the third suit asks that all of these license agreements be cancelled and their further observance enjoined.[73] At this date, no decision has been rendered on the legal issues involved.

HARDBOARD

Hardboard is a homogeneous, dense, and grainless sheet of compressed vegetable fibers varying in thickness from one-tenth to five-sixteenths of an inch. The fibers from which it is made are produced by using steam to explode wood chips. They are then mixed with water, formed into a felt, placed in hydraulic presses, heated, and subjected to pressure. The resulting product is used in the building industry as wallboard or paneling, as a substitute for tile, as flooring, and as forms into which concrete is poured, and elsewhere in the manufacture of furniture, cabinets, advertising displays, motion pic-

[70] All of the foregoing material is based upon a Report on Certain Economic Aspects of the Gypsum Wallboard and Plasterboard Industry and a Progress Report on Study of Gypsum Calcining Industry, prepared by George B. Haddock for the Temporary National Economic Committee (typescript, Washington, 1939).

[71] *U. S. v. United States Gypsum Company, et al.*, District Court of the United States, District of Columbia, Indictment, June 28, 1940.

[72] *U. S. v. Certain-teed Products Corporation, et al.*, District Court of the United States, District of Columbia, Indictment, June 28, 1940.

[73] *U. S. v. United States Gypsum Company, et al.*, District Court of the United States, District of Columbia, Complaint, August 15, 1940.

ture sets, and automobile, street car, and railway car interiors. It has been made commercially since 1926 and, prior to 1929, the Mason Fiber Co. and its successor, the Masonite Corporation, was its sole producer, operating under patents which covered the product itself and the machinery and processes involved in its production.

In 1929 the Celotex Corporation began to manufacture hardboard and a number of other companies subsequently followed suit. In 1931 Masonite sued Celotex, charging infringement, and in 1933, after conflicting decisions in the district court and the circuit court of appeals and an appeal to the United States Supreme Court, the two companies came to an agreement. Between 1933 and 1937, similar agreements were concluded with nine other firms. According to a complaint filed by the Department of Justice on March 11, 1940,[74] Celotex and each of the other companies agreed to recognize the validity of the Masonite patents, to discontinue the manufacture of hardboard and competitive products, to purchase their supplies of hardboard from Masonite for resale, to sell it only to the building industry, leaving the remainder of the market to Masonite, to charge the prices and observe the terms prescribed by Masonite, and to grant no special concessions in price. Masonite, on its part, agreed to manufacture hardboard for each of the other firms, to sell it to them at prices 35 to 50 percent below those paid by dealers, and to refrain from undercutting the prices which it required them to charge. Obviously, these agreements, which were to continue during the life of the Masonite patents, reserved the entire market outside of the building industry for Masonite and eliminated all price competition between this company and the other firms. The Department of Justice, in its complaint, charges that the company has used its position to maintain "high, uniform, and noncompetitive prices for hardboard" and that the parties to its agreements have "each made substantial profits."

Since 1934, Masonite has manufactured and, with its licensees, has distributed about 97 percent of the hardboard made in the United States. The other 3 percent, produced by the United States Gypsum Co., has been sold at prices identical with those charged by Masonite and fixed by it for its licensees. It may not be without significance that three of the Masonite licensees—Celotex, the Certain-teed Products Corporation, and the National Gypsum Co.—also hold licenses under the United States Gypsum patents which were previously described.

MINERAL WOOL

Mineral wool, consisting of a variety of rock, slag, or glass products having the appearance of loose wool, is used as an insulating material. In the form of batts or blankets it is placed between the outer and inner walls of buildings during construction. As loose wool it is used both in the construction of new buildings and in the insulation of previously constructed buildings wherever it can be packed in by hand. In granulated or nodulated form it is employed for the latter purpose alone, being blown by machine into air spaces between an outer and inner wall, above a ceiling, or below roofs and floors. For some time prior to 1929 various manufacturers, including the Johns-

[74] *U. S. v. Masonite Corporation, et al.*, District Court of the United States, Southern District of New York Complaint, March 11, 1940.

Manville Corporation, had manufactured mineral wool in this form and numerous contractors, including W. H. Kratzer & Co., one of its customers, had engaged in the business of blowing it into buildings. In that year, however, Games Slayter obtained a patent, not on the manufacture of the wool itself, nor on the machinery used in blowing it, but on the process of "providing openings to afford access to the air spaces" in existing structures, "inserting the outlet end of a conduit through said openings, and forcing through the said conduit a comminuted heat insulating material * * *." In 1930 Slayter brought suit against Johns-Manville and Kratzer, charging them with infringement. As a consequence of this action, the parties came to an agreement which provided that Slayter should license Johns-Manville and other manufacturers of mineral wool and empower them to sublicense agents, dealers, contractors, and installers. Between 1931 and 1939, Slayter granted such licenses to eight other firms.

In a complaint filed on June 24, 1940,[75] the Department of Justice charges that the Slayter licenses have been employed as a means of bringing the price of granulated or nodulated mineral wool and the prices charged for blowing it into buildings under control. According to the complaint, unlicensed manufacturers have been harassed by infringement suits and threats of such suits, numerous applications for licenses have been rejected, the distribution of competing products has been limited, sublicensees have been required to obtain supplies exclusively from licensees, and have been granted discounts if they would refrain from using competing products or buying from competing firms. The prices charged by licensed manufacturers have been uniform and these prices have been raised, sublicensees have been required to adhere to fixed prices in resales, violations of the program have been investigated, and the structure of prices has been supervised. It is charged that the firms participating in this program "have maintained and are maintaining artificially high, uniform, and noncompetitive prices" and that each of them has "made substantial profits in connection with the manufacture and distribution of such mineral wool."

The complex of interrelationships in the building materials industry extends into the insulation field. Johns-Manville, first of the Slayter licensees, is also a Masonite licensee. United States Gypsum, owner of the gypsum board patents and a follower of Masonite's leadership in pricing hardboard, is also a Slayter licensee.

COMPETITIVE PRACTICES OF DOMINANT FIRMS

Firms dominant in a field, by virtue of their superior bargaining power, have frequently imposed upon those with whom they deal arrangements calculated to place their weaker rivals at a competitive disadvantage. In some cases, they have made exclusive contracts with the only producers of equipment or materials or refused to buy from companies who sold to their competitors, thus cutting the latter off from sources of supply. One instance of such a practice, already

[75] *U. S. v. Johns-Manville, et al.*, District Court of the United States, Northern District of Illinois, Eastern Division, Complaint, June 24, 1940.

cited,[76] occurred in the early years of the century, when the American Can Co. contracted for the entire output of plants manufacturing automatic machinery for making cans. Another was found by the Federal Trade Commission to have occurred more recently, when the three leading operators of candy vending machines arranged with the two largest manufacturers of chocolate bars to purchase all of certain types of bars sold for use in such machines.[77] In other cases, dominant firms have demanded and obtained prices which fell below those charged their competitors by an amount that could not be justified by differences in cost. Among those found by the Commission to have benefited from such discrimination are chain store organizations, mail order houses, and other large distributors.[78] In still other cases, firms purchasing in quantity have compelled companies supplying them with goods or services to buy other goods or services from them. Thus, Swift & Co. and Armour & Co., large shippers of meat, were each allied at one time with concerns producing minor railroad equipment. By threatening to divert their shipments to other lines, they forced the railroad companies to buy equipment from these concerns, thus indirectly obtaining lower transportation costs than those available to their competitors.[79] A similar practice was formerly employed by the California Packing Corporation and its subsidiary, the Alaska Packers Association, who owned a wharfinger company which operated a rail-water terminal in San Francisco Bay. These organizations compelled producers from whom they bought to route shipments destined for other packing houses through this terminal, thus giving it an advantage over its competitors in the wharfinger business and obtaining for themselves an advantage over their competitors in the packing trade.[80] Highly integrated firms have sometimes profited at the expense of independent companies whose operations were confined to a single stage of the productive process. By establishing a low price for raw materials and a high price for finished products, they have made it difficult for other producers of materials to compete; or, by setting a high price on raw materials and a low price on finished goods, they have obtained a similar advantage over independent fabricators. Such practices are said to have been employed, for instance, by integrated firms producing aluminum, steel, and gasoline.[81]

Large concerns have frequently attempted to exclude their smaller rivals from the market by imposing upon distributors contracts forbidding them to handle goods produced by other firms. Exclusive arrangements of this sort have been used, at some time since 1920, by the Eastman Kodak Co.,[82] the National Biscuit Co.,[83] the National Broadcasting Co., and the Columbia Broadcasting System,[84] and have obtained in the sale of dress patterns, electric switches, music rolls,

[76] Cf. supra, p. 67.
[77] Federal Trade Commission, Order, Docket 3134 (1939).
[78] Cf. Idem, Chain Stores, 74th Cong., 1st sess., S. Doc. No. 4 (1935), ch. 4, and Orders in Dockets 3031 (1938), 2116 (1936), and 3685 (1939), involving the Atlantic & Pacific Tea Co., Sears, Roebuck & Co., and Montgomery Ward & Co., respectively.
[79] Idem, Orders, Dockets 1727 (1932) and 1779 (1931).
[80] Idem., Order, Docket 2786 (1937).
[81] Cf. supra, pp. 70–71, 134, and infra, pp. 167–168.
[82] Cf. 7 Federal Trade Commission Decisions 434 (1924), 7 Fed. (2d) 994 (1925), and 274 U. S. 619 (1927).
[83] Federal Trade Commission, Order, Docket 3607 (1938).
[84] Federal Communications Commission, Report of the Committee Appointed by the Commission to Supervise the Investigation of Chain Broadcasting (mimeo. 1940), pp. 59–64.

canned sirups, tinted lenses, pass books and account books, and automobile carburetors.[85]

Firms producing two or more goods or services have often made use of still another device, refusing to supply a customer with one of their products unless he would also take another, thus closing the market to competitors in the latter field. As noted in the preceding chapter, the United Shoe Machinery Corporation once compelled lessees of its lasting machines to turn to it for their welters, stitchers, and metallic fasteners, and the International Business Machines Corporation and Remington-Rand, Inc., each required lessees of its tabulating machines to buy its tabulating cards.[86] Tying contracts of this sort have also been found or alleged, since 1920, to have been employed in selling targets to lessees of clay pigeon traps,[87] accessories to purchasers of pressure gages for automobile tires,[88] valves to lessees of bag-filling machines,[89] paper bags and sticks to lessees of machines used in the manufacture of frozen confections,[90] and bands and wires to lessees of tying machines,[91] in each case giving the producer of the second article an advantage over his competitors in the production of the first. Firms selling a large number of goods or services have sometimes followed a similar practice, refusing to supply any of their products to purchasers who would not agree to take several or all of them. Manufacturers of agricultural implements, by forcing their full lines on distributors, manufacturers of automobiles, by requiring dealers to handle their parts and accessories and to use their subsidiary finance companies in making sales on the installment plan, and producers of motion pictures, by compelling exhibitors to book their films in blocks, have thus profited at the expense of competitors whose operations were narrower in scope.[92]

GASOLINE

The independent refiner of petroleum operates under a heavy handicap in competing with the integrated major companies. He must turn to them for materials and services. Since they produce more than half of the crude, he depends on them for part of his supply. Since they control the stocks of casing-head gasoline, recovered from natural gas, which he must blend with the product he obtains by straight-run refining to make it volatile enough for commercial use, he depends on them for this material. Since they own the trunk pipe lines, he depends on them for transportation. Since they hold the important patents in the field, he depends on them for the right to use improved productive processes. If they will not sell him these materials, rights, and services, he will find it difficult to compete. If they will do so, his payments will be a cost to him and a source of income to them.

The independent refiner must operate within the margin which exists between the price of crude and the price of gasoline. The majors take the lead in establishing each of these prices. The independent

[85] Federal Trade Commission, Orders in Dockets 594 (1923), 747 (1923), 793 (1924), 1580 (1930), 2717 (1938), 3050 (1937), and 3279 (1938), respectively.
[86] Cf. supra, p. 106.
[87] Federal Trade Commission, Order, Docket 279 (1920).
[88] Federal Antitrust Laws, case 260 (1922).
[89] Ibid., case 355 (1931).
[90] Federal Trade Commission, Complaint, Docket 3250 (1937).
[91] Idem., Complaint, Dockets Nos. 3498 (1938), 3688, 3818 (1939).
[92] Cf. infra, pp. 168–173.

cannot buy crude for less than the price they pay. He cannot sell gasoline for more than the price they charge. The refinery margin, within which he must operate, is thus determined for him by his powerful competitors. The width of this margin is of crucial importance to him; it has little more than a bookkeeping significance for them. If they should choose to reduce it, by raising the price of crude, by lowering the price of gasoline, or both, he might be driven from the field. This process is known to the industry as the "refinery squeeze." According to one witness who testified before the T. N. E. C., the application of the "squeeze" closed 100 independent refineries in the east Texas field between 1937 and 1939.[93] This assertion is not inconsistent with price data for east Texas crude and gasoline. From January 1936 to May 1937 while the price of gasoline rose from 5½ to 6½ cents a gallon, the price of crude rose from $1 to $1.35 a barrel. But in the 15 months from May 1937 through August 1938, while the price of gasoline dropped steadily to 5 cents, the price of crude remained at $1.35, and the refinery margin was reduced accordingly.[94]

The independent refiner is also handicapped in marketing. Since he does not usually operate a cracking plant or maintain facilities for the distribution of fuel oil, he must sell this product to the major companies. Since many filling stations are controlled by these concerns, he frequently encounters difficulties in finding outlets for his gasoline. The majors now operate few stations of their own. Under the "Iowa plan," devised to avoid the burden of State chain store taxes and Federal and State pay roll taxes, they have leased their stations to former employees, collecting rentals based on gallonage. But the terms of these agreements leave the new "proprietors" little freedom to shape their own policies. The contracts frequently provide that the lessee shall not handle products that are unsatisfactory to the lessor, or those that are produced by his competitors. Exclusive dealing is enforced by inducements and penalties. The dealer who carries a single brand of gasoline may receive free equipment and free building, painting, and paving services. He may lease his station to a major company at one figure and rent it from the major at a lower figure. In either case, he gets a subsidy. The dealer who carries several brands, however, is often charged one-half cent more per gallon for his gasoline. He may also be denied the privilege of selling on credit to holders of company credit cards. In many cases, moreover, the lessor company may terminate its contract with the station lessee without cause on 5 or 10 days' notice, thus compelling the dealer to adhere to the policies which it prescribes. As a consequence, in most sections of the United States, stations which carry more than one brand of gasoline are rare. The number of retail outlets which are open to the independent refiner is limited.[95]

AGRICULTURAL IMPLEMENTS

Companies manufacturing a full line of agricultural implements and machinery have usually forced their distributors to carry every product in the line and have forbidden them to handle equipment produced

[93] Hearings before the Temporary National Economic Committee, Part 14, pp. 7367–7373.
[94] Ibid., pp. 7590–7591.
[95] Cf. Ibid., Part 15–A.

by other firms. The Federal Trade Commission, in its investigation of the industry in 1937, found that the International Harvester Co. and Deere & Co., the dominant long-line producers, with some 18,000 distributors, had imposed such requirements over many years. Although International Harvester insisted that it did not forbid its dealers to handle products made by other firms, many of them testified to the pressure to which they had been subjected by its traveling representatives. One International dealer, who had been handling competing machines, told a Commission interviewer that an International "blockman" had called on him and told him that another dealer was about to be cut off for this offense; a branch manager also called on him and left only after he had promised to confine his sales to International machines. Another dealer reported that the company had delayed the renewal of his contract while it waited for him to promise to discontinue a competing line. A third said that a "blockman" had told him flatly that his contract would not be renewed unless he would deal exclusively with International. In this case, according to the dealer, the "blockman" attempted to persuade a farmer who was one of his regular customers to transfer his patronage to another firm. Other dealers said that they had to "bootleg" competing machines, keeping them hidden and selling them secretly; one was reported to have keep such machines in a barn 2 blocks from his place of business.[96] Although a Deere executive testified that his company had abandoned its former policy of "not doing business with anyone who handles competitive goods," the Commission found that its representatives were still bringing pressure to bear on dealers in the fall of 1937, "always with the fear overhanging the dealer that if he does not comply, his contract as a Deere dealer may be withdrawn."[97] The following case is presented as typical:[98]

> Dealer K, also a Deere dealer, handling implements of other manufacture, states that the Deere "blockman" on many occasions told him stories of how other dealers' contracts had been canceled because they handled other lines. During the summer of 1936 the dealer was called to the Deere branch headquarters where Deere representatives were insistent that he give up the competing line, but he did not promise. Early in December 1936 the "blockman" appeared at his place of business with a contract ready for the dealer's signature. The dealer was ready and eager to sign, but once more the "blockman" asked him to give up the competing line. When he refused, the "blockman" tore up the contract, stating that the dealer was not a proper person to represent the Deere line. Since that date the dealer has had no contract to purchase Deere goods. * * *

Other long-line manufacturers are said to have used similar tactics. A representative of the J. I. Case Co. wrote to dealers in 1937:[99]

> At several of our sales meetings held during 1936 and 1937 the writer stated very plainly that we did not want and would not tolerate dealers handling competitive goods.

Dealers desiring to handle one or a few of the products of short-line companies, when thus threatened with the loss of their long-line company contracts, have usually elected to discontinue the sale of the competing lines.

[96] Federal Trade Commission, The Agricultural Implement and Machinery Industry, pp. 276–283.
[97] Ibid., p. 273.
[98] Ibid., p. 282.
[99] Ibid., p. 283.

Exclusive dealing and full-line forcing, as they have been practiced in this industry, operate to the disadvantage of the small manufacturer, the dealer, and the farmer. The manufacturer is excluded from thousands of retail outlets. In rural markets which are too small to support more than two or three dealers, he is not represented at all. He may thus find it difficult to sell a new and useful product or to expand into other lines. If he is to reach the farmer, he must set up outlets of his own. As a result, dealerships are multiplied unnecessarily. The dealer's volume suffers, his cost per unit of sales rises, and his total profit falls. The farmer, in many cases, is denied an opportunity to see, examine, and buy the products of the small concern. When he does buy, he must pay a price that will cover the dealer's higher cost. He is thus deprived of the benefits that would flow from the maintenance of competitive conditions in the trade. It was the conclusion of the Federal Trade Commission that:[1]

> The elimination or restriction of the competition of the smaller manufacturers by such means tends to strengthen the dominant position held by a few large manufacturers and competition becomes progressively weakened both as to price and service to dealers and to farmers. To the extent that competition is restricted by monopolization of dealer outlets by the large manufacturers, the production and distribution of the country's supply of farm implements and machines is still further restricted to a few large companies that already control the bulk of the business. * * *

This situation makes it "much easier for manufacturers to arrive at effective secret price understandings," says the Commission, "and the usual result is the enhancement of prices to the consumer."[2]

AUTOMOBILES

Automobiles are produced in the United States by 11 manufacturers and new automobiles are distributed by more than 30,000 retail dealers. The arrangements which exist between these manufacturers and their dealers are a product of unequal bargaining power. The manufacturer needs a dealer organization to sell his cars, but his need for any single outlet in the group is slight. If a dealer should attempt to obtain concessions by threatening to drop his line, the manufacturer could easily refuse to yield. The dealer, on the other hand, usually depends upon a single manufacturer. If the manufacturer should threaten to cancel his contract, he would face the alternatives of taking a loss in shifting to another line or retiring from the field. The legal relationship between manufacturer and dealer is that of vendor and vendee; the business relationship, in effect, is that of principal and agent. A Federal district judge, in a case involving the contract between the Ford Motor Co. and its dealers, has described the situation in the following words:[3]

> Summarizing this recital of the relations between the Ford Motor Co. and the residents of Maryland who handle its products, it appears that while the company does not maintain within the State an agent with power to bind it by contract, nevertheless the actual supervision and control exercised by it through its travel-

[1] Ibid., pp. 21–22.
[2] Ibid., p. 288.
[3] *La Porte Heinekamp Motor Co.* v. *Ford Motor Co.*, 24 Fed. (2d) 861, quoted in Federal Trade Commission, Report on Motor Vehicle Industry, 76th Cong., 1st sess., H. Doc. No. 468, 1939, p. 140.

ing representative is almost as complete as if the dealers were its agents in all respects. The privilege of handling Ford cars and other products is evidently valuable, and since the company may withdraw it at any time, it is not difficult to prevail upon the dealer to comply with the company's demands.

There is evidence that manufacturers have used their superior bargaining power to control dealer policies and to impose restrictive arrangements on dealers against their will.

Manufacturer-dealer relationships in this industry were investigated by the Federal Trade Commission in 1938. At that time, dealers complained of many onerous practices. They were often forced, they said, to take more cars than they could profitably sell. Sales quotas were established and dealers were required to dispose of the quantities prescribed. Unordered cars were shipped to them, especially in the months preceding the appearance of new models. Orders for one model were not filled unless they agreed to accept other models which they did not want. Unordered accessories were sometimes installed on ordered cars. Dealers were compelled to handle certain tools, parts, tires, and accessories and to purchase advertising materials, salesmen's equipment, motion picture projectors, film services, and office filing and record systems. Their operations were closely supervised by factory representatives. They were forced to make investments in the business which subsequently proved to be unprofitable. They were required to discharge employees and replace them with persons acceptable to the manufacturer. They knew that dealers who failed to meet their quotas had been dropped. So, under the threat of cancelation, expressed or implied, they did as they were told.[4]

Most of the manufacturers forbid their dealers to handle cars of other makes. Contracts have been canceled when dealers have refused to discontinue "dual lines." A Packard distributor told a Commission investigator that he had lost several subdealers because the Chrysler Corporation would not permit them to carry a second line.[5] Manufacturer-dealer agreements also contain provisions which require the dealer to handle only those parts and accessories which the manufacturer makes or approves. A Ford dealer said that a factory representative called upon him at intervals, inspected his stock of parts and accessories, laid aside those not made by Ford, and told him to get rid of them within 30 days. Manufacturers defend this policy on the ground that it protects motorists from "counterfeit" and inferior parts. In some instances, however, they have objected to parts which were identical with those that they supplied, being made by the same company and sold directly to the dealer at a lower price. A Chevrolet dealer said:[6]

> Chevrolet's policy in regard to parts, while much better than it was prior to 1938, is still somewhat arbitrary. They still feel we should buy 100 percent of our parts, batteries, etc., from them, even though we can buy the identical merchandise from other sources on a more favorable basis.

Exclusive dealing in this field has been profitable for the manufacturers. The General Motors Corporation realized an average annual return of 58 percent on its investment in the parts and accessories business from 1927 to 1937.[7] General Motors made a net profit of 28 cents

[4] Federal Trade Commission, Motor Vehicle Industry, pp. 173–211, 264–278, 296–303.
[5] Ibid., p. 253.
[6] Ibid., p. 263.
[7] Ibid., p. 493.

on every dollar's worth of parts and accessories sold in 1937; Chrysler made 16 cents; figures for Ford are not available.[8]

Most sales of automobiles are made on credit. Each of the major manufacturers is associated with a company which is engaged in the business of financing such sales. The General Motors Acceptance Corporation is a subsidiary of General Motors. The Universal Credit Co. was organized by Ford in 1928 and sold to the Commercial Investment Trust Corporation in 1933; close relations between the companies have been maintained. The Commercial Credit Co. entered into a contract with Chrysler, agreeing to pay Chrysler a share of its profits if Chrysler, in turn, would recommend Commercial Credit's services to its dealers. These three companies, together, handle about 80 percent of the wholesale financing and 75 percent of the retail financing of automobile sales. The manufacturers have sought to cut the cost of installment buying and they have succeeded in doing so. But they have also required their dealers to use the services of these concerns, thus excluding competing enterprises from a major portion of the field. A Ford dealer was told that he had to use Universal Credit if he wanted to get new cars.[9] A Chevrolet dealer said that he was forced to sell some $25,000 worth of choice installment paper to General Motors Acceptance Corporation after General Motors auditors had discovered that he was carrying it himself.[10] A De Soto-Plymouth distributor reported that he had attended a dealers' meeting at which a factory representative had said:[11]

> We are through trying to induce you dealers to do business with Commercial Credit Co. and now we are going to use other methods beginning the first of the month.

This distributor had used the services of other finance companies and for this reason, he said, all of his associate dealers were taken away from him. Indictments charging that such practices constituted a violation of the Sherman Act were returned against General Motors, Chrysler, and Ford on May 27, 1938.[12] Chrysler and Ford accepted consent decrees on November 15, 1938, agreeing to refrain from coercing dealers to use the facilities of their associated finance companies and from endorsing or advertising the services of such companies. General Motors elected to stand trial and was convicted of violation of the Sherman Act on November 16, 1939.[13]

MOTION PICTURES

In the motion picture business, five of the eight leading producers of films also own and operate the finest theaters in the cities and the largest chains of smaller theaters throughout the country. These eight companies together produce 80 to 90 percent of the feature films and produce and exhibit 65 percent of all of the pictures shown in the United States. Their dominant position gives them an advantage over their competitors in both the production and exhibition of

[8] Ibid., pp. 535, 599.
[9] Ibid., p. 286.
[10] Ibid., p. 287.
[11] Ibid., p. 283.
[12] Federal Antitrust Laws, cases 430, 431, 432.
[13] New York Times, November 8, 1938, November 18, 1939. This conviction has been appealed. On October 4, 1940, the Government filed a civil suit, seeking to compel the General Motors Corporation to divorce itself from the General Motors Acceptance Corporation.

films. They refuse to share with independent producers the services of featured players and technicians and the use of sets and other properties which they freely share among themselves. Their ownership of some theaters and their influence over others makes it difficult for these independents to reach the market. Each of their chains is in a different territory; they do not compete. The eight companies produce enough pictures to supply the houses in these chains with all the programs that they need. Independent producers, renting films to these houses, must do so on unfavorable terms. The major companies, moreover, impose upon independent exhibitors, who must turn to them for the great majority of their feature attractions, contracts including a block-booking clause, a tying arrangement which compels these houses to take many pictures they do not want in order to obtain the ones they do. Independent producers cannot rent their films to exhibitors whose programs are thus crowded with the products of the major firms. Independent exhibitors are at a similar disadvantage. The producer-owned houses get the first runs of the feature films and pay a lower rental for pictures that prove to be unpopular. The independent houses are compelled to take the second runs and to pay higher rentals for films they do not want. If they refuse to acquiesce in this arrangement, they may get no films at all. In consequence, they may be driven into bankruptcy or forced to sell out to the chains. Control of production and exhibition by a single group thus operates to drive its rivals from both fields.[14]

The Department of Justice brought suit against the five integrated companies—Paramount, Loew's, Radio-Keith-Orpheum, Warner Bros., and Twentieth Century-Fox—and the three other major producers—United Artists, Columbia, and Universal—in 1938, seeking the divorce of production and exhibition, the elimination of block-booking, and the prohibition of coercive practices.[15] A consent decree accepted by the five integrated companies in November 1940 for a trial period of 3 years, beginning September 1, 1941, requires producers to show films to the exhibitors to whom they are sold, forbids them to sell films in blocks of more than five, and sets up machinery to arbitrate disputes between producers and exhibitors. If the three remaining producers have not been compelled, by June 1, 1942, to offer trade showings and to confine their sales to blocks of five or less, these provisions of the decree are to be set aside. Meantime, the Government will not press its suit to divorce the production and exhibition branches of the integrated firms.

RADIO BROADCASTING

Three hundred and fifty of the 660 radio broadcasting stations in the United States in 1938, including 28 of the 30 with clear channels, high power, and unlimited time, were affiliated with networks. Nearly half of the broadcasting time of more than half of the stations in the country was devoted to network programs. Two companies dominated the field; the National Broadcasting Co., with 160 outlets, and the Columbia Broadcasting System, with 107, together served 58

[14] Department of Justice, Statement of Grounds for Action, *U. S.* v. *Paramount Pictures, Inc., et al.*, July 20, 1938.

[15] *U. S.* v. *Paramount Pictures, Inc., et al.*, District Court of the United States, Southern District of New York, Petition in Equity, July 20, 1938.

percent of the commercial stations and accounted for 56 percent of the total sales of radio time. One other national network and seven regional chains were comparatively minor factors in the industry.[16]

The two dominant companies sell network time to advertising agencies and buy station time, under contract, from the outlets in their chains. They are also engaged in other businesses. They own or lease and themselves operate 23 stations, 15 of them among the 30 with clear channels, high power and unlimited time.[17] They run talent bureaus which have contracts with more than 800 performers, including 400 individual artists and 100 popular dance bands.[18] The National Broadcasting Co. and its affiliate, the Radio Corporation of America, record entertainment and other audio matter, manufacture electrical transcriptions, and sell them to broadcasting stations in competition with some other concerns, doing more than a third of the business in this field.[19]

The contracts which control the relationship between the major networks and their station outlets contain many provisions which operate to the disadvantage of competing networks and station operators. They run for 5 or 10 years, although the licenses granted to stations by the Federal Communications Commission are for a single year. They may be renewed by the networks upon 30 days' notice, but not by the stations. The network typically takes an option on the station's time, obtaining the right to make use of preferred hours or of all of the hours available for broadcasting. On 28 days' notice it may require the station to sell it any one of the contracted hours, even though this forces the operator to cancel an arrangement with a local customer, thus running the risk of losing his patronage. The network gives no guarantee that it will use the optioned time; in practice, it uses only a third of the time that it reserves. It pays for the time it uses, but makes no payment for its right to use the other two-thirds of the station's hours. The station, however, cannot reject a program unless it can prove to the satisfaction of the network that the public interest would suffer if it were used. The usual contract forbids the station to accept a program from another network, thus denying it the right to obtain profitable business and preventing new networks from getting a foothold in the industry. It also forbids the station to accept programs from national advertisers for local broadcasting at rates below those which the network charges for the station's time, thus preventing it from competing for national advertising. The division of revenues between the network and the station depends upon the latter's bargaining power. The network usually retains the proceeds of the first 4 or 5 converted hours (one evening hour or its equivalent in daytime hours) and pays the station for its remaining time at rates which rise in brackets as more time is used. As a result, the network gets a large share of its hours for nothing or at the rates obtaining in the lower brackets. In practice, it retains about 60 percent of the income derived from selling station time and pays the stations the other 40 percent.[20] "These contractual arrangements," says a report submitted to the Federal Communications Commission by its commit-

[16] Federal Communications Commission, op. cit., pp. 8–14.
[17] Ibid., pp. 39–41.
[18] Ibid., pp. 102–103.
[19] Ibid., pp. 109–110.
[20] Ibid., pp. 52–72.

tee on chain broadcasting, "have resulted in a grossly inequitable relation between the networks and their outlet stations to the advantage of the networks at the expense of the outlets." And the report continues: [21]

> The provisions of these contracts which forbid the outlet to accept programs from any other network, which prohibit the outlet from accepting programs from national advertisers at rates lower than those charged by the network, and which require the outlet to keep available for the use of the network all, or almost all, of its time, stifle competition and tend to make the outlet the servant of the network rather than an instrument for serving the public interest.

The National Broadcasting Co. operates two networks, the red and the blue. It broadcasts most of its commercial programs over the red network, calling on the outlets in this chain for three-fifths of its optioned time. It provides the outlets in the blue network with sustaining programs, calling on them for less than a fifth of its optioned time. Connection with the red chain is profitable; connection with the blue chain is not. But the contracts which the company makes with its stations do not specify the chain to which they are to be attached. This situation has three effects: It excludes competing networks from the blue stations; it provides N. B. C. and R. C. A. with controlled markets for electrical transcriptions; it gives N. B. C. the power of life and death over its outlets, thus compelling them to acquiesce in the arrangements which it prescribes.

The integration of the major companies gives them an advantage over their competitors in many fields. As a manufacturer of transcriptions, N. B. C. is in a position to prevent rival manufacturers from recording programs by excluding them from its studios and to deprive them of a market by forcing its own recordings on the stations in its chains. As talent agents, both companies are in a position to insure the dependence of their outlets and check the development of other networks by refusing to provide them with performers. As operators of broadcasting stations, competing with their own networks in selling time to advertisers, they are in a position to retain for themselves business which they otherwise would share with the station owners who rely on them to make such sales. According to the committee which reported to the F. C. C.: [22]

> The network companies are engaged in two separate activities; they are operating their own stations as well as directing a network under contractual arrangements with independently controlled stations. The networks are in a position to determine the extent to which they will emphasize the sale of network time as compared with the sale of non-network time over their own stations. They can devote a large amount of their capital and personnel to the solicitation of non-network business for their own stations rather than for network business. To the extent that the network organizations emphasize the non-network business of their own stations at the expense of network time, they are favoring their own stations at the expense of the independently controlled stations. The conflict of interest is obvious.

This conflict is heightened by the fact that the 23 stations owned or controlled by N. B. C. and C. B. S. receive a third of the total operating income of all the stations in the United States and pay these companies more money than they derive from the operation of their chains.[23]

[21] Ibid., p. ii.
[22] Ibid., pp. 45–46.
[23] Ibid., pp. 40, 44.

The situation in this industry has produced substantial profits for the dominant concerns. With 28 percent of the industry's investment, N. B. C. and C. B. S. received 50 percent of its net operating income in 1938. Together they had a net operating income equal to 89 percent of their total investment and more than 100 percent of their investment in tangible property. The net profit realized by N. B. C. yielded a return of 80 percent on its tangible property; that realized by C. B. S. yielded a return of 71 percent.[24]

MARKET SHARING

In certain industries, dominated by a few large firms, competition is avoided by behavior which maintains a settled distribution of the business in the field. Here the dominant concerns amicably share supplies and markets, no one of them attempting to trespass on another's ground, each of them habitually abstaining from bidding against the others in making purchases and sales. In some cases they act in conformity with the terms of an explicit agreement; in others they merely follow the conventions of the trade. Such behavior is customary among investment bankers. It has made its appearance among anthracite coal operators and meat packers and is alleged to have existed in the tobacco industry.

INVESTMENT BANKING

The investment banker buys stocks and bonds from corporations and sells them to savers and savings institutions, thus providing industry with capital and investors with securities. While corporate borrowers have frequently dispensed with his services in recent years by selling their obligations directly to insurance companies and other sources of investment funds, the banker still occupies a strategic position in the field. Of the $9,600,000,000 in new issues, other than those of governments, railroads, banks, and nonprofit institutions, which were registered with the Securities and Exchange Commission from January 1934, through June 1939, 96 percent were offered to the public through investment banks.[25] In underwriting an issue of any size, the banker customarily forms a syndicate consisting of a group of banks each one of which agrees to purchase a participation, i. e., to buy a specified portion of the securities involved. The firm that acts as the manager, or, with others, as a comanager of the underwriting syndicate, usually permits nonmembers to share in marketing the issue, determining the pattern and procedures of distribution that are to be employed. A few large houses get the bulk and the cream of the business. Eight banks managed 77 percent of the $9,600,000,000 in securities registered in 1934–39, retaining as their own participations 46 percent of this amount. Thirty-eight firms managed 91 percent of the bond issues registered from 1935 through the first 6 months of 1939. No firm located outside of New York City participated in the management of any of the first-grade issues managed by these concerns. Morgan, Stanley & Co., successor to the underwriting business of J. P. Morgan & Co., managed one-third of all of

[24] Ibid., pp. 15–22.
[25] Verbatim Record of the Proceedings of the Temporary National Economic Committee, vol. 10, p. 633.

these issues and four-fifths of the first-grade issues, handling 100 percent of the first-grade bond issues of manufacturing, transportation, and communication companies, 71 percent of those of electric light and power, gas, and water companies, and 74 percent of those of all other concerns.[26]

Market sharing normally characterizes the investment banking field. Bankers, because the law requires it, submit competitive bids for Federal, State, and municipal securities and for railway equipment trust certificates. But they do not compete for corporate stocks and bonds. Each investment house has its territory where others do not intrude. Houses do not solicit business from a corporation that is dealing with another firm. They do not bid on securities that have been offered to others. The same groups of bankers, united in the same combinations in a long series of syndicates, continue to underwrite the issues of the same corporations over extended periods of time. Issuers of securities, in effect, are allocated among the members of the trade and bankers are assigned participations in their issues in proportions which are constantly maintained.

In some cases these arrangements have been set forth in written agreements; in others they appear to be a product of informal understandings which are faithfully observed. Goldman, Sachs & Co. and Lehman Bros., who had shared certain business since 1906, signed a memorandum in 1925, with a supplement in 1926, which provided that, with one exception, "our joint relation to all companies previously financed by the two houses was to remain exactly as it had been in the past," that the Goldman, Sachs office was to handle the business of 41 specified corporations, that the Lehman office was to handle that of 19, and that each house was to have an equal interest in securities issued by these 60 concerns.[27] A similar understanding has apparently governed participations in the securities issued by the American Telephone & Telegraph Co. and its affiliates during the past 20 years. J. P. Morgan & Co. managed every one of the 14 telephone bond issues from 1920 to 1930, reserving for itself a 20 percent participation in each. Eight other houses were accorded identical participations in each of the issues, as follows: First National Bank, 10 percent; National City Co., 10 percent; Kuhn, Loeb & Co., 10.75 percent; Harris, Forbes & Co., 5 percent; Lee Higginson Corporation, 5 percent; Guaranty Co., 4.75 percent; Bankers Trust Co., 4.75 percent; Kidder, Peabody & Co., 29.75 percent.[28] Morgan Stanley & Co. managed 11 telephone issues from 1935 to 1939. The participation granted to Kuhn, Loeb & Co. in each of these issues was exactly half as large as Morgan Stanley's share. That granted to the First Boston Corporation, in all but two cases, fell between 32 and 36 percent of Morgan Stanley's share. Kidder, Peabody's participation hovered around 40 percent of Morgan Stanley's, although twice it dropped to 33.3 percent. Lee Higginson's participation, in most cases, was about 20 percent of Morgan Stanley's, although it fell as low as 16.7 percent and rose as high as 24 percent. The participations granted to other underwriters, with a few exceptions, conformed to this pattern.[29]

[26] Ibid., pp. 632–638; cf. testimony of Dr. Oscar L. Altman.
[27] Ibid., pp. 508–510.
[28] Ibid., p. 192.
[29] Ibid., p. 219. For another case in which proportionate participations remained wholly or substantially unchanged for a long period, see the record of the financing of the Chicago Union Station Co. Ibid., pp. 17–35.

The methods whereby customers are allocated, participations assigned, and comanagers of syndicates selected, under these market-sharing arrangements, are but partly known. In explaining the first of these processes, bankers speak of the "historical relationships" which exist between borrowing corporations and banking firms. When a corporation has gone back to the same house for advice and assistance in floating a second and a third issue, because they had interlocking interests or merely because it was satisfied with the service it had received, they have been said to be historically related and the banking community has assumed that the association would be maintained. But the principles which govern the decisions involved in granting or refusing admission to syndicates, in maintaining, increasing, or reducing participations, and in selecting comanagers are not explained. Apparently, the power to make these decisions is in the hands of a small inner circle of large firms and presumably the members of this circle grant recognition to those bankers whose cooperation is assured.[30] When disputes arise, the matter is settled amicably—in one case by the flipping of a coin.[31] Thus, as it was put by Mr. Harold L. Stuart, president of Halsey, Stuart & Co., "the boys all divide up something they don't own."[32]

However they may be established, the right to certain customers, the right to certain participations, and the right to share in the management of syndicates are regarded by the members of the trade, in a moral if not in a legal sense, as proprietary interests, are tenaciously defended by their owners, and are generally respected by others. While the understandings embodying these rights, according to Mr. Carlton P. Fuller, president of Shroder, Rockefeller & Co., "are thus not on a legally enforceable basis, they have worked without difficulty since 1929" and continue to "operate as long as the parties thereto are reliable."[33] Traditional relationships between bankers and borrowers were not reshuffled when commercial and investment banking activities were separated in conformity with the requirements of the Banking Act of 1933. The new houses which were established when the underwriting function was abandoned by some of the older firms obtained their capital and personnel from members of these firms and acquired their customers through inheritance. Thus, $6,600,000 of the $7,500,000 in the initial capital of Morgan, Stanley & Co., was provided by 9 of the 17 partners of J. P. Morgan & Co.; three of its officers, holding 60 percent of its voting stock, were former Morgan partners;[34] and, according to the testimony of its president, Mr. Harold Stanley, before the T. N. E. C., the new house took over practically all of the Morgan accounts.[35] Such transfers were generally respected by the members of the trade. For instance, when the Armstrong Cork Co., a former client of the Guaranty Co. approached Kuhn, Loeb & Co.,

[30] One form which this cooperation may be expected to take is suggested by the recommendation made to Blyth & Co. by Mr. Blyth that the firm maintain a sizable account with J. P. Morgan & Co. in order to "try to get under the tent in that way." Cf. Ibid., pp. 92–93.
[31] Ibid., p. 235.
[32] Ibid., p. 203.
[33] Ibid., p. 605.
[34] Ibid., pp. 250–251.
[35] Ibid., p. 259.

concerning a prospective issue of securities, a Kuhn, Loeb official wrote as follows: [36]

> Yesterday Mr. H. L. Freeman discussed with me the possibility of doing some financing for the Armstrong Cork Co. with which he has a connection. I told him that I would discuss it here in the office, and asked him to return today.
>
> Having checked up on the company and found that the original financing had been done by the Guaranty Co., I explained to Mr. Freeman that the Guaranty Co.'s successor was E. B. Smith & Co. and that naturally we did not wish to poach on their preserves.

Since such forbearance was mutual, "historical relationships" have been maintained.

In justification of these practices, it is contended that the interests of corporate borrowers are better served when they form a permanent connection with a single house than they would be if corporations were to "shop around" in search of terms more favorable to them; and it is further argued that investment banking is not a business, but a profession, the implication being that ethical standards would be violated if bankers should compete. Thus, according to Mr. Stanley, "The investment banker's sense of responsibility would be minimized under competitive bidding, and his professional relations with his client destroyed." [37] Whatever the force of these contentions, it must be noted that abstention from competition also operates to widen the banker's margin and increase his profits. When the Interstate Commerce Commission, in 1925, adopted its rule requiring competitive bidding on equipment trust certificates, the banker's spread was reduced from $1.91 per unit of $100 in 1930 to 43 cents in 1931.[38] When the Chesapeake & Ohio Railroad Co. forced competitive bidding on a $30,000,000 security issue in 1938, Morgan, Stanley & Co., for whom the issue was originally intended, withdrew and the railroad obtained an extra $1,350,000 from the sale.[39] Facts such as these suggest that the bankers' belief that competition is unethical may rest upon considerations other than those of morality.

ANTHRACITE COAL

Virtually all of the hard coal mined in the United States, valued at some $200,000,000 a year, comes from an area of 480 square miles in northeastern Pennsylvania. Prior to 1920, the anthracite industry was firmly in the grasp of eight railroads which served this region. These roads had apprehended many years before that the compactness of the deposits facilitated monopolistic control of the anthracite supply, and they were not slow to take advantage of their opportunity. Not only to safeguard their coal traffic but also in the expectation that cooperative restriction of output would raise coal prices and that increasing demand would enhance the value of coal lands, they bought up all available holdings and by 1895 owned more than 95 percent of the anthracite reserves. As carriers of the coal produced by their mining affiliates, the roads were then in a position to siphon off the industry's profits in high freight rates. Controlling all of the available trans-

[36] Ibid., p. 548.
[37] Ibid., Reference Data Section I, p. 3; For similar statements see the testimony of Mr. John M. Schiff, of Kuhn, Loeb & Co., and Mr. Joseph R. Swan, of Smith, Barney & Co. Ibid., pp. 547–551, 566–567.
[38] Stock Exchange Practices, 73d Cong., 2d sess., S. Rept. No. 1455, 1934, pp. 85–87.
[39] Time, July 24, 1939, p. 56.

portation facilities, they were in a position to keep the independent operators in line. Thus in command of the field, they long avoided competition by entering into pooling agreements, by following a price leader, and by sharing the market.[40]

In 1906, Congress passed the Hepburn Act, with its commodities clause, prohibiting railroads generally from transporting in interstate commerce goods which they produced or owned. Beginning in 1907, the Department of Justice invoked this clause in an effort to divorce the anthracite carriers from the mines. And finally, in 1920, a favorable decision was obtained from the Supreme Court in the second *Reading case*.[41] The Reading Co. and the Central Railroad of New Jersey were required to divest themselves of their mining properties and a similar decree was entered against the Lehigh Valley. The Pennsylvania and the Lackawanna voluntarily disposed of their holdings, but the Delaware & Hudson, the New York, Ontario & Western, and the Erie failed to follow suit.[42] The Federal Trade Commission commented on the effect of these divorcements in 1925:[43]

> Only time and the future policies of the railroads and the coal companies of the combinations that have been segregated can determine whether the segregation has really broken down the combination and restored competition among them.

Fifteen years later, it may be said that segregation has not really broken down the combination and that competition has not been restored. Recognition of the continuance of alliances between the carriers and the mines is implied in the common designation as "railroad companies" or "line companies" of those firms which have been under railroad ownership. At least four line companies, including the Hudson Coal Co. and the Lehigh Coal & Navigation Co., which together produce 15 percent of the industry's output, are still owned by railroads or railroad holding companies. For the most part, however, mining and railroad companies now appear to be connected through common financial interests and interlocking directorates. Hundreds of such connections were depicted by the Pennsylvania Anthracite Coal Industry Commission in a chart showing the "Working Control of Anthracite Operating Companies by Financial and Other Interests Which Also Control Anthracite Carrying Railroads."[44] According to another observer, "It is no secret that there are still strong financial affiliations between certain of the rail and coal interests";[45] according to a second, "coordination of mining companies and the railroads has been continued through financial interrelations and interlocking directorates";[46] according to a third, the companies, "were and still are largely dominated by the same financial group."[47] The anthracite carriers, deriving 30 percent of their revenue from this traffic in 1935, have continued to charge high rates. The Pennsylvania commission reported in 1937 that[48]—

> * * * freight rates on anthracite are much too high (ton-mile rates average roughly half again as much as bituminous rates, and ton-mile earnings perhaps a

[40] Burns, op. cit., pp. 118–129, 166–168.
[41] *U. S.* v. *Reading Company*, 253 U. S. 26.
[42] Federal Trade Commission, Premium Prices of Anthracite, 1925, pp. 42–50.
[43] Ibid., pp. 49–50.
[44] Philadelphia Record, October 26, 1937; Commonwealth of Pennsylvania, Bureau of Workmen's Compensation, A Study of the Anthracite Industry (mimeo., 1938), Exhibit A.
[45] A. T. Shurick, "Technological Changes and Price-Cutting Drying Up Anthracite Revenues," Annalist, August 13, 1937, p. 252.
[46] William R. Pabst, Jr., "Monopolistic Expectations and Shifting Control in the Anthracite Industry," Review of Economic Statistics, February 1940, p. 45.
[47] Fraser and Doriot, Analyzing Our Industries, p. 401.
[48] Pennsylvania Anthracite Coal Industry Commission, Ad Interim Report (1937), p. 19.

third higher). Various other handling charges also seem to be too high. The railroads still persist in regarding anthracite as a rich monopoly, however, and have stubbornly refused to make any large and lasting freight reductions on a wide front.

The line companies, owning or controlling the lands on which several of the independents operate, have continued to exercise a measure of influence over the smaller concerns. The industry's pricing policies have continued to be noncompetitive.

Anthracite prices, according to the National Resources Committee, "show the stair-step type of fluctuation characteristic of monopolistic pricing." [49] These prices reached unprecedented levels during the twenties and producers were apparently determined to keep them there, despite declining demand and unused capacity. Although production fell 25 percent from 1917 to 1929, the average wholesale price of anthracite rose 24 percent and the line company price of stove coal was doubled. These prices were among those which displayed the least sensitivity to the influences of business depression. From 1929 to 1933, the average wholesale price of anthracite fell less than 10 percent; the prices of certain sizes actually rose. In 1937, Federal Judge Oliver B. Dickinson, sitting in a reorganization case, upbraided the industry for charging "inordinately high prices for coal to the consumer." [50]

The anthracite operators apparently failed to realize that the increasing availability of such substitutes as oil, gas, coke, and bituminous coal had destroyed the power of their monopoly. Their pricing policy fostered the movement of consumers, by the thousands, to these other fuels. The output of anthracite fell steadily from 98,612,000 net tons in 1917 to 51,856,000 in 1937. For most of the line companies, the decade of the thirties was a period of serious financial distress. The Philadelphia & Reading Coal & Iron Co., the second largest producer in the field, filed a petition for reorganization under the Corporate Bankruptcy Act in 1937. The share of the total output produced by the eight line companies fell from 74 percent in 1923 to between 60 and 65 percent in 1937.[51] A bootleg trade developed, unemployed miners removing coal from company lands and shipping it to urban markets by truck. In many cases, the line companies leased their idle collieries to independent operators, seeking thus to obtain the funds with which their tax and interest charges might be paid. But they did not compete among themselves.[52]

In 1939, pleading that large supplies of "distress coal" had created a "chaotic situation" in the industry, the anthracite producers, with the encouragement and cooperation of the Governor of Pennsylvania, embarked upon a program of sharing the market by limiting colliery operation to a certain number of days per week. An anthracite production committee, representing the mining companies, administered the plan. At various times it was reported that the industry was operating on a 6-, 4-, 5-, and 3-day schedule, while on at least two occasions the shut-down lasted for a week.[53] Although some inde-

[49] National Resources Committee, Energy Resources and National Policy, p. 82.
[50] New York Times, Dec. 14, 1937.
[51] E. E. Hunt, F. G. Tryon, and J. H. Willits, What the Coal Commission Found (Baltimore, 1925), p. 371; Pennsylvania Anthracite Coal Industry Commission, Report of Commissioner Morris L. Ernst (1937), p. 4.
[52] Cf. Pabst, op. cit., p. 49.
[53] Cf. The Black Diamond, March 11, March 25, April 8, May 6, May 20, June 3, November 4, November 18, and December 16, 1939.

pendent producers opposed the scheme, compliance was apparently obtained. The type of persuasion which kept the recalcitrants in line was revealed by the trade journal of the industry: [54]

> It is very well known that Governor James, who has an intimate knowledge of the mining problems, has indicated to both the old line and other operators that it would not be too difficult for his Bureau of Mines' officials to find lack of exact observance of the laws and that any individual operator or group that sought to upset the situation by overproduction might find himself facing a complete shut-down.

In January 1940 the industry inaugurated an even more ambitious market-sharing program, involving the direct allocation of weekly production quotas to all participants. This scheme, which is without legal authority, is administered by a committee composed of three representatives of the Governor, three operators, and three representatives of the United Mine Workers of America. The Governor selected all 9 members, choosing the company and union representatives from panels submitted to him. Recommendations of "production requirements" for each week are made by a board of 14 whose members are selected by the operators from among their own number, 7 of them on a numerical basis and 7 of them on a tonnage basis. The companies share in this production according to quotas which represent their portions of the total output in the 2 or 3 years preceding 1940.[55] Governor James pointed out that there are no price-fixing features in the plan, but "he also said he believed the operators would not undersell each other." [56] After the program had been in effect for 5 weeks, allocations totaled 4,622,811 tons and production 4,638,618 tons. It was announced that 98 percent of the producers had subscribed.[57] Enforcement, it was asserted, rests on "the moral compulsion of the vast majority of operators and the punitive power of the United Mine Workers, who were made a part of the agreement for their influence on recalcitrant producers." [58] Presumably the services of the Pennsylvania Bureau of Mines are still available when needed.

MEAT

Market sharing, either by agreement or by convention, has existed in the meat packing industry for many years. Between 1885 and 1902, price and production agreements ruled the trade. The packers acted together to depress the price of livestock by offering high prices until they attracted large shipments to the stockyards, then withdrawing from the market until the shippers, in desperation, were ready to sell at any figure they could get, and finally returning to the market one at a time, while the others stood aside, to buy their supplies at whatever price they chose to pay. At the same time they contrived to raise the price of meat by assigning shipping quotas to each packing house, establishing uniform charges, and imposing fines on those who shipped a quantity larger or sold at a figure lower than those prescribed. In 1905 the Supreme Court upheld a decree enjoining seven of the packing companies from continuing these activities.[59] There is evidence that this decree did not have the effect

[54] Ibid., March 25, 1939.
[55] Philadelphia Record, January 24, 1940.
[56] Ibid., January 25, 1940.
[57] New York Times, March 15, 1940.
[58] Philadelphia Record, January 24, 1940.
[59] Jones, op. cit., pp. 10–11, 403–405, 485–490.

of establishing competitive conditions in the trade. In 1910 the Department of Justice brought an unsuccessful suit against the packers alleging violation of the injunction. In 1918 the Federal Trade Commission reported that the distribution of livestock purchases, slaughtering, and sales among the Swift, Armour, Morris, Wilson, and Cudahy Cos., during the 5 years previous, had remained the same from week to week and month to month, regardless of the total quantity of sales. In the opinion of the Commission:[60]

> The prearranged division of livestock purchases forms the essential basis of a system, by which the big packers are relieved of all fear of each other's competition and, acting together, are able to determine broadly not only what the livestock producers receive for their cattle and hogs, but what the consumer shall pay for his meat.

Again in 1925 the Commission reported that the percentage distribution of the slaughter in the 5 preceding years had shown little change.[61] In 1928, the Supreme Court upheld a consent decree, which had been entered in 1920, prohibiting the packers from holding stock in public stockyard companies, public cold storage plants, stockyard terminal railroads, or market newspapers, from dealing in commodities not related to the meat-packing business, and from selling meat at retail. In 1932, the Court refused petitions requesting it to modify this decree so as to permit the packing companies to enter the wholesale grocery trade.

The big packing houses still dominate the markets in which livestock is bought and meat is sold. The "Big Four"—Swift & Co., Armour & Co., the Cudahy Packing Co., and Wilson & Co.—handled 51 percent of the hogs slaughtered under Federal inspection in 1920 and 51 percent again in 1937; they handled 71 and 63 percent of the cattle, 67 and 70 percent of the calves, 78 and 79 percent of the sheep and lambs, in the same 2 years.[62] In the markets for meat, these houses take the lead, which the smaller packers follow, in stating the prices at which they will sell. There are indications that the proportionate distribution of sales and the structure of prices within these markets are carefully maintained. According to Alspaugh:[63]

> The most difficult problem in connection with the distribution of products from packing plants to branches arises from the necessity of "maintaining a position" in each market, that is, the effort of each packer to maintain a minimum percentage of the total volume of packing house products sold in a market. Any decline in the weekly volume of beef prompts an immediate investigation to determine whether it was due to a decrease in consumption or a larger shipment by competitors. If a competitor is shipping a larger quantity into the market, the packer will, in most cases, continue to make his regular shipments and follow an aggressive sales policy with timely price adjustments, which will insure his retaining his regular patronage. As a result the packer who has increased shipments experiences difficulty in moving the additional quantity of beef except at greatly reduced prices, which are out of line with the prices received in other markets.

It has also been stated by Swift & Co. that it is the practice of each packing house to determine the quantity of fresh meats that the others have on hand in city markets and to avoid making shipments that

[60] Federal Trade Commission, The Meat Packing Industry, 1918, Summary and Part I, p. 77.

[61] Idem., Packer Consent Decree, 68th Cong., 2d sess., S. Doc. No. 219 (1925), pp. 18–20.

[62] William H. Nicholls, "Market-sharing in the Meat Packing Industry," Journal of Farm Economics, vol. 22 (1940), pp. 225–240, at p. 232.

[63] Harold P. Alspaugh, Marketing of Meat and Meat Products (Ohio State University doctoral dissertation, Columbus, 1936, unpublished), pp. 142–143, quoted in Nicholls, op. cit., p. 234.

would spoil the price.[64] It thus appears that local price discrimination and the control of shipments may be employed as a means of preserving the distribution of business and protecting the prices established within the several markets where meat is sold. But the packers' freedom to fix the general level of such prices is limited by factors which they cannot control. The supply of meat is determined by the production of livestock. The demand for meat is elastic, and dietary substitutes are available. In general, the prices announced by the "Big Four" are merely those that are calculated to clear the markets of the supply.

In the markets for livestock, however, a different situation obtains. Here the big packers take the lead, and here, again, the little packers follow, in setting the prices at which they will buy. But here the leaders have a freer hand. Sellers are numerous and supply, in the short run, is fixed, responding slowly to any change in price. Buyers, on the other hand, are few, and demand is consequently subject to control. The livestock prices which the packers announce are determined by deducting their processing costs and profit margins from the current prices of meat. If they were to compete in bidding up livestock prices, these margins might be reduced. But there is continuing evidence that they do not compete. On a national scale, from 1913 to 1935, Swift's share of the "Big Four" purchases of hogs, cattle, calves, sheep, and lambs increased significantly while Armour's fell; the Cudahy and Wilson shares showed relatively little change.[65] But within the several markets where the "Big Four" buy, the distribution of their purchases still conforms to a pattern which has been constantly maintained. Although there is no evidence that they have exercised it, these companies undoubtedly have the power to preserve this distribution by bidding up prices and thus reducing the margin left to any packer who would seek to disturb it. It is, perhaps, significant that a firm has not usually increased its share of the purchases in a market unless it has acquired the assets of another house.

Prof. William H. Nicholls, of Iowa State College, has recently analyzed the proportionate weekly purchases of hogs, cattle, and calves made by the "Big Four" companies in each of five terminal markets during the years from 1931 through 1937. Each packer's share of the "Big Four" purchases of each type of livestock in each of these markets was found to remain strikingly constant from week to week and from year to year. The weekly purchase percentages of hogs normally fell within 1.8 percent and those of cattle and calves within 2.8 percent of the annual averages. At Omaha, during the 7 years, Armour's share of the annual purchases of hogs remained between 44 and 45 percent, Cudahy's between 30 and 31 percent, and Swift's between 24 and 25 percent. At Sioux City, Armour's share fluctuated between 38 and 40 percent, Cudahy's between 38 and 40 percent, and Swift's between 20 and 23 percent. In Oklahoma City, Armour and Wilson divided their purchases on a 49.9–50.1 basis in 1931, 50.2–49.8 in 1932, 52.3–47.7 in 1933, 50.3–49.7 in 1934, 50.1–49.9 in 1935, 50–50 in 1936, and 49.8–50.2 in 1937. In St. Paul and St. Joseph, Armour and Swift shared the market with similar regularity.

[64] *U. S.* v. *Swift and Co., et al.*, 196 U. S. 375 and Brief for Swift and Co., pp. 69–71, cited in Burns, op. cit., p. 165.

[65] Nicholls, op. cit., p. 233.

When the distribution of purchases in this period was compared with that which the Federal Trade Commission had published for 1913–17, it was found that the situation had remained virtually unchanged for a quarter of a century. In Omaha, for instance, Armour's share had changed from 46.6 to 44.6 percent, Cudahy's from 29.2 to 30.7 percent, and Swift's from 24.2 to 24.8 percent. In Oklahoma City, Armour and Wilson took 50.6 and 49.4 percent, respectively, in 1913–17, and 50.4 and 49.6 percent, respectively, in 1931–37. The distribution of the "Big Four" purchases of cattle and calves in each of the five markets, during the latter period, displayed a similar constancy.[66] These figures, it should be noted, apply only to purchases in terminal markets. An increasing though minor percentage of livestock is sold directly and therefore does not pass through these markets.[67] Where such sales are important, according to Nicholls, "if sharing is carried on, it is on the basis of slaughter or division of buying territory rather than on the basis of terminal-market purchases. Certainly, direct marketing would serve to complicate any generally-understood 'rules of the game' based on the simple expedient of constant on-market percentages." [68]

Although the packers have usually attributed the constancy of their purchase percentages to the existence of vigorous competition in the trade,[69] they have not always been so disingenuous. Thus, Dr. L. D. H. Weld, economist of Swift & Co., testified that [70]—

> If we try to exceed our customary percentages in any market, we could not get away with it, that is all. To do that, we would have to raise the bid over the market price. Morris, Armour, and Wilson would not stand for it, that is all. They would meet our prices and there would be cutthroat competition.

And Mr. George E. Putnam, of the same firm, has written as follows: [71]

> It should be observed that the general practice among intelligent competitors of respecting one another's position need not be a matter of "tacit understanding." In the case of Swift & Co. it is an individual, commonsense policy, arrived at independently, not to invite retaliation and trade wars by using aggressive tactics. [Swift] has deliberately tried to avoid cutthroat competition wherever it was legally possible to do so.

These statements lend support to the conclusion reached by Nicholls that—

> such constant percentages are evidence of imperfectly competitive conditions in the packing industry, presumably with ill effects on prices to farmer and consumer.[72]

TOBACCO

Of the total income received by the manufacturers of tobacco products, amounting to more than $1,350,000,000 in 1937, 2 percent was derived from the sale of snuff, 5 percent from the sale of chewing tobacco, 9 percent from the sale of smoking tobacco, 12 percent from the sale of cigars, and 72 percent from the sale of cigarettes.[73] The least im-

[66] Ibid., pp. 224–231.
[67] Cf. United States Department of Agriculture, The Direct Marketing of Hogs, Misc. Pub. No. 222 (1935), p. 2.
[68] Nicholls, op. cit., p. 232.
[69] For an analysis of this argument, see Burns, op. cit., pp. 159–165.
[70] 66th Cong., 2d sess., Hearings on H. R. 6492, pp. 1023–1026, quoted in Nicholls, op. cit., p. 238.
[71] George E. Putnam, Supplying Britain's Meat (London, 1923), quoted in Nicholls, op. cit., p. 239.
[72] Nicholls, op. cit., p. 240.
[73] Computed from Census of Manufactures, 1937.

portant branch of the industry is the most highly concentrated, three firms accounting for more than 95 percent and four for more than 99 percent of the total output of snuff. The branch which is second in importance shows the least concentration, the three largest producers of cigars contributing less than 28 percent of the output in 1934; the four largest less than 40 percent in 1937. Three companies, in each case, manufactured 65 percent of the smoking tobacco and 69 percent of the chewing tobacco in 1934, and four, in each case, manufactured more than 77 percent of the smoking tobacco and between 57 percent and 92 percent of the various types of chewing tobacco in 1937. In the most important branch of the industry, the "Big Three"—the American Tobacco Co., producers of Lucky Strikes; the Liggett & Myers Tobacco Co., producers of Chesterfields; and the R. J. Reynolds Tobacco Co., producers of Camels—accounted for more than 80 percent of the output in 1934, and the "Big Four"—including the P. Lorillard Co., producers of Old Golds—accounted for nearly 85 percent of the output in 1937.[74] Together, these companies had assets of nearly $700,000,000 and sales of nearly $850,000,000 in 1938.[75] Although the "Big Three" have maintained their dominant position for more than 20 years, manufacturers of other brands—Old Golds, Philip Morris, and the 10-cent cigarettes—have occasionally succeeded in capturing a fraction of the growing sales. But since producers who seek to enter the industry must invest heavily in machinery, carry large stocks of aging tobacco, pay substantial taxes before they sell their products, and spend huge amounts on advertising campaigns that may or may not win acceptance for their brands, there are few who have the capital or the courage to make the attempt and, as a result, the established companies are quite secure against such invasions of the field.

There has been no market-sharing in the sale of cigarettes. The leading producers have spent enormous sums on advertising and sales promotion work and their relative shares in the total business have fluctuated in response to changes in their comparative expenditures.[76] In this area, they have engaged in vigorous competition; in pricing, they do not compete. Cigarette prices are established through leadership; in six price changes from 1928 to 1934, Reynolds took the lead four times and American twice; all of the other companies followed, four times on the same day, once within 2 days, and once within 4 days.[77] "Although these prices may not be established collusively," says the Federal Trade Commission, "there seems to be an unwritten rule that any price change will be followed."[78] Each firm is confident that a change announced by any one of them will immediately be adopted by all of the others, and this confidence operates to remove competitive restraints upon increases and to impose noncompetitive restraints upon reductions. Prices, discounts, and terms of sale are uniform, and producers have cooperated with distributors in maintaining resale prices.[79] Manufacturers' prices, moreover, are highly inflexible, frequently failing to respond to changing costs. In 20 years,

[74] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 262; Thorp and Crowder, op. cit., Part III, Appendix A.
[75] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 1, p. 16.
[76] Cf. Fortune, August 1938, pp. 25 ff.
[77] Federal Trade Commission, op. cit., p. 447.
[78] Ibid., p. 464.
[79] Federal Trade Commission, The Tobacco Industry (1922), pp. 15–75; Agricultural Income Inquiry, Part I, pp. 524–550.

from 1919 to 1939, they changed 11 times. From October 1922 to April 1928 and again from January 1934 to January 1939, they did not change at all.[80] These prices, according to the Commission, "are almost simultaneously changed upward or downward with little regard to leaf tobacco or general commodity price levels."[81] Thus, in 1931, an increase "which carried the leading brands to the highest price in more than a decade" was made at a time when "commodity prices were on a downward trend and the average of wholesale prices was lower than at any time since 1915" and when "the 1931 crop of leaf tobacco sold at the lowest price of any year within the same period," circumstances which "strongly invited a reduction in the price of cigarettes." In the opinion of the Commission, "if the four companies had not been determined to charge all the traffic would bear and had not thought themselves beyond the reach of effective competition, it is doubtful that the increase would have been made or followed," since "undoubtedly any one of the manufacturers of the leading brands could have broken the new price by not following it."[82] On the one occasion when the position of the "Big Three" was seriously threatened by price competition, they acted decisively. After the 10 cent brands had captured a fifth of the market during several months of 1932, they reduced their prices from $6.85 to $5.50 per thousand, thus cutting the sales of 10 cent cigarettes in half.[83] This move, says the Commission, may be taken to indicate either that "the price of $6.85 per thousand was exorbitant because of lack of competition or that the subsequent reduction to $5.50 per thousand was below cost for the purpose of checking, if not destroying, the growing competition of the 10-cent brands. Either alternative shows the powerful position of the four large companies and the manner in which that power is exercised."[84]

About 1,500,000,000 pounds of leaf tobacco is grown annually on some 500,000 farms located chiefly in Virginia, Kentucky, Tennessee, Georgia, and the Carolinas. About one-third of the crop is exported; two-thirds is consumed at home. This 1,000,000,000 pounds, together with some 70,000,000 pounds which is imported, largely for blending in the manufacture of cigarettes, provides the domestic industry with its raw material. With minor exceptions, tobacco growers sell their leaf directly to buyers for the manufacturers or to dealers, who may either act as agents for large or small manufacturers or buy for short-run speculation, at auctions which are conducted in some 600 warehouses located in more than 100 towns scattered throughout the growing region. Sales are not made on the basis of standard grades. The grower sorts his tobacco as best he can, ties it in bundles, and brings it to the warehouse, where it is piled in baskets, weighed, tagged, and arranged in rows in readiness for the auctioning. As the buyers and the auctioneer proceed along these rows, conducting their transactions in a technical vocabulary which is unintelligible to the layman, sales are made to the highest bidders at breakneck speed, more than 350 baskets changing hands within an hour. The grower may reject the highest bid and hold his leaf for later sale. If he accepts the offer, he is promptly paid. He thus has ready access to the market and profits from the rapid disposition of his crop.

[80] D. W. Malott and B. F. Martin, The Agricultural Industries, p. 387.
[81] Federal Trade Commission, op. cit., pp. 550–551.
[82] Ibid., p. 464.
[83] Ibid., pp. 462–463.
[84] Ibid., p. 465.

While the tobacco auction possesses the outward characteristics of active competition, this appearance may be deceptive. Buyers and sellers do not have equal knowledge or equal bargaining power. Buyers, contending that Government grades do not reflect the qualities which are important to the processor, base their bids on secret grading systems of their own. Sellers, being handicapped by the absence of standard grades and lacking the power to impose them, cannot insist that their products possess these qualities. Buyers, usually holding inventories of aging tobacco sufficient for a year's supply, are in a position to postpone their purchases. Sellers, requiring ready cash to meet their living expenses and pay their debts, dealing in a product which is subject to deterioration, and running the risk of finding no buyer after the auction has closed, are in no position to refuse the highest bid. Buyers, moreover, are few. In 1934, thirteen companies purchased 96 percent of the tobacco used in the United States.[85] Liggett and Myers bought nearly 25 percent of the crop, Reynolds 13 percent, and American 11 percent, the "Big Three" together accounting for nearly half of the total purchases.[86] These three concerns are now said to buy more than two-thirds of the burley tobacco and more than four-fifths of the Maryland tobacco and, together with two exporters, to buy approximately three-fourths of the flue-cured tobacco produced each year in the United States.[87] The concentration of purchases is even greater than these figures would indicate, since not every purchaser operates in every market in every year or buys as heavily in one market as he does in another.[88] The inequality inherent in this situation has been heightened by noncompetitive buying practices. In 1922, the Federal Trade Commission found that the major companies had sometimes made their purchases through a single buyer, thus ceasing to offer independent bids,[89] that they had depressed tobacco prices by "holding off" from the market and "buying under cover," [90] that they had expressed their orders for purchases of leaf in terms of percentages of the offerings,[91] and that each of them, according to the complaints of sellers, had bought "only a certain percentage of the offerings." [92] In 1937, the Commission found little evidence that manufacturers were buying through common agents, but it reported that "each company is careful to distribute its purchases over the entire buying season and upon all principal markets" so as not to "force prices upward." [93] While such practices need not involve collusion, or even a stable distribution of purchases, they must lessen the competitive character of the markets in which they are employed. A more serious charge is made by the Department of Justice in an Information filed in the District Court of the United States for the Eastern District of Kentucky on July 24, 1940. According to this document: [94]

The defendant major tobacco companies, as the principal purchasers of leaf tobacco, have attempted to support, build up, and maintain marketing systems and

[85] Ibid., p. 24.
[86] Ibid., p. 259.
[87] *U. S.* v. *American Tobacco Co. et al.*, District Court of the United States, Eastern District of Kentucky, Information, July 24, 1940, par. 13.
[88] F. T. C., op. cit., pp. 346, 416.
[89] Idem., The Tobacco Industry, p. 40.
[90] Ibid., pp. 39–40.
[91] Ibid., pp. 62, 64, 89, 96, 147, 149.
[92] Ibid., p. 9.
[93] Idem., Agricultural Income Inquiry, Part I, p. 415.
[94] *U. S.* v. *American Tobacco Co. et al.*, District Court of the United States, Eastern Division of Kentucky, Information, July 24, 1940, par. 26 (a) (b).

marketing conditions for leaf tobacco intentionally designed to deprive the growers thereof of any substantial bargaining power in connection with its sale, and to permit said defendants to control the instrumentalities through which leaf tobacco is marketed in order that defendants might purchase it under conditions unnaturally, unreasonably, and artificially favorable to themselves, and unnaturally, unreasonably, and artificially restrictive to the growers, sellers, other purchasers, and other handlers of such tobacco. Defendants have in fact accomplished these objectives through domination of the boards of trade, and members thereof, in the several marketing localities, and of the Tobacco Association of the United States, through which, as well as through other channels, they jointly foster and enforce regulations and practices with respect to the terms, methods, conditions, places, and times of sales of leaf tobacco.

Within the framework of the marketing systems so brought about and maintained defendants have further attempted arbitrarily to fix, establish, maintain, manipulate, and tamper with the prices of leaf tobacco, including that purchased by themselves, with the purpose and effect of enabling them to purchase leaf tobacco at such prices and unreasonably to restrain and dominate the trade of the growers thereof, and with the further purpose and effect of unreasonably eliminating and tending to eliminate and restrain competition among themselves, competition from other purchasers and handlers of leaf tobacco, and competition from other manufacturers and potential manufacturers of tobacco products, particularly the manufacturers of 10 cent cigarettes. Defendants have in fact accomplished these objectives by understandings in advance of the openings of the marketing seasons, and from time to time throughout such seasons, with respect to the prices to be paid for leaf tobacco; and by intentionally formulating their grades, buying instructions, and products so as to avoid competition among themselves for the same or similar kinds of tobacco, at the same times, in the same markets.

If this charge should be borne out by the facts developed in the case, it would appear that the markets for leaf tobacco have been effectively shared.

The profit record of the industry supports the hypothesis that it has not been actively competitive. In the 21 years from 1917 through 1937, 13 companies, which in 1934 produced 97 percent of the output of cigarettes, 89 percent of the output of pipe tobacco, and 98 percent of the output of snuff, realized an average annual return of 16.44 percent on their total investment, 18.22 percent on the stockholders' investment, and 21.9 percent on the common stockholders' equity. Their return on their total investment fluctuated between a low of 10.07 percent in 1933 and a high of 23.64 percent in 1918. The 4 cigar manufacturers in the group, facing many competitors, obtained an average annual return of 9.32 percent; the 3 snuff manufacturers, encountering little competition, made 16.44 percent; the 6 cigarette manufacturers made 17.34 percent. The "Big Three"—American, Liggett & Myers, and Reynolds—made 17.16 percent, 16.70 percent, and 23.05 percent, respectively. It should be noted, moreover, that none of these figures include the substantial salaries and bonuses that have been paid to the chief executives of these concerns.[95]

INTERCORPORATE RELATIONS

Common control of enterprises engaged in the same industry is not consonant with the existence of bona fide competition between them. Such control may be achieved through the ownership of voting stock, through interlocking directorates, through financial affiliations, or through personal ties of a less tangible sort. In the Clayton Act of 1914, Congress undertook to prevent the employment of the first two

[95] Federal Trade Commission, Digest of Studies of Long-term Profits, Report to the Temporary National Economic Commitee (unpublished), pp. 4–35.

of these devices as means of eliminating competition between two or more concerns. Section 7 of that act makes it unlawful for a corporation to acquire the stock of a competitor, or for a holding company to acquire the stock of two or more competitors, where the effect of such action may be substantially to lessen competition, or to restrain commerce, or where it may tend to create a monopoly. Section 8 provides that no person may be a director of two or more corporations engaged in commerce, where any one of them has capital, surplus, and undivided profits aggregating more than $1,000,000 and where elimination of competition between them would constitute a violation of the antitrust laws. The scope of these prohibitions, however, was limited by Congress and has been further restricted by the courts. Section 7 does not forbid outright mergers and it does not prevent individuals from holding stock in competing concerns. Section 8 does not prohibit directors of two corporations in one field from sitting together, in another, on the board of a third. In 1926, moreover, the Supreme Court of the United States decided, in the *Swift* and *Thatcher cases*,[96] that the Federal Trade Commission could not order a company to divest itself of the assets of a competitor if it had effected a merger, while the proceeding was pending, by voting stock which it had unlawfully acquired. And again in 1934, the Court decided, in the *Arrow-Hart & Hegeman case*,[97] that the Commission was powerless to act when a holding company after acquiring the shares of two competing corporations, had distributed them to its stockholders, who had thereupon voted to merge the two concerns. As a result of these limitations, stock ownership and interlocking directorates have continued to contribute to concentration of control.

STOCK OWNERSHIP

Traffic over the detour which the Court built around section 7 has been heavy. This route has been followed by producers of copper, motion pictures, petroleum, salt, and whisky, by manufacturers of automobile parts, biscuits and crackers, electrical devices, glass, glass containers, gypsum products, heavy chemicals, paper- and fiberboard boxes, roofing materials, and steel, by packers of meat, by distributors of dairy products, by lessors of tank cars, and by firms engaged in many other trades.[98] Among 547 mergers between 1929 and 1936, the Federal Trade Commission found that 54 percent had been consummated through the acquisition of assets.[99] Section 7 is thus a source of minor inconvenience to those who seek to buy up competition or impose control upon competitors, but it is little more. The Commission has repeatedly urged its amendment to prohibit the acquisition of assets as well as the acquisition of stock and the Temporary National Economic Committee has made a similar recommendation in its preliminary report.[1]

There are indirect forms of intercorporate stockholding, not within the purview of section 7, which may also operate to limit competition. In some cases, competing concerns have owned stock in a corporation

[96] 272 U. S. 554.
[97] 291 U. S. 587.
[98] Hearings before the Temporary National Economic Committee, Part 5–A, pp. 2363–2388.
[99] Temporary National Economic Committee, Preliminary Report, 76th Cong., 1st sess., S. Doc. No. 95, p. 21.
[1] Ibid.

doing business in another field. General Electric and Westinghouse once thus held the shares of R. C. A. The Carnation Co. and the Pet Milk Co., which together produce 32 percent of the canned milk sold in the United States, are both interested in the General Milk Co., which operates abroad.[2] There are 25 corporations—mostly pipe line, patent-holding, and foreign enterprises—which are subsidiaries or affiliates of two or more of the major oil companies. The Great Lakes Pipe Line Co., for example, is owned by eight of these concerns. Every one of the majors owns stock in some corporation in which at least one of the others has an interest.[3] In other cases, the chain of relationships has several links. Thus, the du Pont Co. and the Dow Chemical Co., two of the largest manufacturers of chemicals, are connected through du Pont's ownership of stock in General Motors, which shares with Standard Oil of New Jersey the ownership of the Ethyl Gasoline Corporation, which shares with Dow the ownership of the Ethyl-Dow Chemical Co. In still other cases, stockholdings uniting firms in different industries may give them an advantage over their competitors in obtaining raw materials or in marketing their goods. The ownership of pipe lines by oil refiners, iron ore companies by steel producers, and anthracite mines by railroads are cases in point. The United States Rubber Co., which sells tires to General Motors, is also controlled by du Pont.

The stock of two or more corporations which are nominally in competition is sometimes held by the same persons. In 1935 three men who controlled the Outboard Motors Corporation also held 85 percent of the capital stock of the Johnson Motor Co., another large manufacturer of outboard boat motors.[4] In 1939 the stockholders of the Diamond Match Co., which alone accounted for more than half of the American match business, also owned the shares of the Ohio, Lion, Universal, Federal, and West Virginia match companies. Diamond's president held 51 percent and Diamond itself held the other 49 percent of the stock of the Berst-Forster-Dixfield Co. These seven concerns, together, produced nine-tenths of the Nation's output of matches.[5] On December 31, 1938, each of 58 among the 120 largest stockholders in 17 major oil companies owned shares in 2 to 5 of these concerns; 48 owned shares in 6 to 10 of them; 14 owned shares in 11 to 15 of them. Seventy-seven of those in the group had interests in the Socony-Vacuum Oil Co., 69 in Standard Oil of New Jersey, 68 in the Ohio Oil Co., 67 in Standard of Indiana, 64 in the Consolidated Oil Corporation, 51 in Standard of Ohio, 49 in the Texas Corporation, 46 in the Pure Oil Co., 44 in the Atlantic Refining Co., 43 in the Continental Oil Co., 38 in the Phillips Petroleum Co., 37 in the Skelly Oil Co., 27 in the Shell Union Oil Corporation and in the Cities Service Co., 26 in the Gulf Oil Corporation, and 25 in the Tide Water Associated Oil Co.[6] The Sun Oil Co. was the only member of the group which was comparatively free from interlocking ownership. Data for the Standard Oil Co. of California were not available. Each of the majors, of course, had thousands of stockholders, the numbers ranging from 3,152 in the case of Skelly Oil to 466,658 in the case of

[2] Federal Trade Commission, Agricultural Income Inquiry, Part I, pp. 255–256.
[3] Hearings before the Temporary National Economic Committee, Part 14–A, pp. 7774–7775.
[4] Hearings before the Temporary National Economic Committee, Part 5–A, p. 2385
[5] Fortune, May 1939, pp. 89 ff.
[6] Hearings before the Temporary National Economic Committee, Part 14–A, pp. 7776–7778.

Cities Service. But the 100 largest stockholders owned more than a fifth of the shares in all 17, more than two-fifths in 9, more than three-fifths in 5, and more than four-fifths in 3.[7] And here, as elsewhere, diffusion of ownership facilitated concentration of control. Members of the Rockefeller family and foundations established by the Rockefellers were in a controlling minority position in at least six of the major companies, holding 7.1 percent of the voting stock in Atlantic Refining, 13.8 percent in Standard of Indiana, 16.5 percent in Standard of New Jersey, 16.6 percent in Standard of California, 20.8 percent in Socony-Vacuum, and 24 percent in Ohio Oil.[8] Members of the Harkness, Flagler, Whitney, Bingham, Chapman, and Kenan families also held stock in several of the successor companies of the former oil trust. While all of these concerns are independent enterprises, with complete freedom to determine their own policies, it seems hardly likely, in view of the extent to which they are owned by the same people, that any one of them would pursue a course which was prejudicial to the interests of the others.

INTERLOCKING DIRECTORATES

Interlocking directorates between competitors, though not unknown, are uncommon. The Federal Trade Commission has issued only five complaints under Section 8 of the Clayton Act and all of these were dismissed. The Commission reported, in 1927, that: "The few cases arising under this part of the statute are probably due to the fact that its requirements can readily be met, and the desired results obtained by other means."[9]

Section 8, however, does not forbid directors of two competing corporations to serve together on the board of a third corporation in another field. Such indirect interlocks appear to be common. A study of interlocking directorates among the 200 largest non-financial and the 50 largest financial corporations in the United States in 1935, made by the National Resources Committee, revealed several examples of this type. Directors of General Electric and Westinghouse, the two leading manufacturers of electrical equipment, sat together on the boards of the American Telephone & Telegraph Co., the New York, New Haven, and Hartford Railroad Co., and the Chase National Bank. Directors of Armour and Wilson, two of the "Big Four" meat packers, sat together on the boards of International Harvester, the Chicago Great Western Railroad Co., and the Continental Illinois National Bank & Trust Co. Directors of Kennecott and Phelps Dodge, concerns which produced 55 percent of the American output of copper in 1937, sat together on the boards of Continental Oil and J. P. Morgan & Co. Among the major oil companies, Tide Water interlocked with Standard of California through the Anglo-California National Bank, Gulf Oil with Continental Oil through Pullman, Inc., and Cities Service with Socony-Vacuum through the Manufacturers Trust Co., of New York, and with the Texas Corporation through the Natural Gas Pipeline Co. of America.[10] There are no means of gaging the extent to which such interlocks may operate to

[7] Ibid., p. 7775.
[8] National Resources Committee, The Structure of the American Economy, Part I, p. 311.
[9] Annual Report, 1927, p. 17.
[10] National Resources Committee, op. cit., ch. 9, appendix 12.

limit competition. It does not seem likely, however, that two persons who are harmoniously associated in an enterprise in one field will disregard each other's interests in another.

A third type of interlock occurs in those cases where concerns that trade with one another have directors in common. Among the 250 corporations studied by the National Resources Committee, such relationships were numerous. Insurance companies, which buy securities, were widely interlocked with railroads, utilities, and manufacturing concerns. General Motors and the Chrysler Corporation, heavy purchasers of metals, were interlocked with steel companies, General Motors with a copper company. General Electric and Westinghouse, who sell electrical equipment, were interlocked with a number of railroads, General Electric with several public utilities. Pullman, Inc., whose subsidiary operates sleeping cars, was interlocked with various railroad companies. The B. F. Goodrich Co., a tire manufacturer, was interlocked with International Harvester, National Dairy Products, and Sears, Roebuck & Co., all large purchasers of tires.

There were many such cases; 225 of the 250 corporations had interlocks with others in the group. A corporation which is thus related to concerns in other fields may have a marked advantage over its competitors in obtaining supplies and in marketing its goods and services. Again, it is impossible to determine whether, or to what extent, interlocking directorates are employed to this end; the temptation so to use them, however, must be felt in nearly every case where such a link exists.

INTEREST GROUPINGS

In their broadest aspect, intercorporate relationships take a form which the National Resources Committee designates as "corporate interest groupings." The members of these groups may be connected through stock ownership, interlocking directorates, common affiliations with investment banks, intangible personal ties, or a combination of these means. Of the 250 corporations which it studied, the Committee placed 106 within eight such groups. In the Morgan-First National group are 41 concerns, including two copper companies, Kennecott and Phelps Dodge, which account for more than half of the annual output, and the two largest anthracite mining companies, the Philadelphia and Reading Coal and Iron Corporation and the Glen Alden Coal Co., which together produce about 31 percent of the hard coal mined in the United States. Of this group, the committee says:[11]

> While it is certain that the extensive economic activity represented by these corporations is in no sense subject to a single, centralized control, it is equally certain that the separate corporations are not completely independent of each other. The climate of opinion within which their separate policies are developed is much the same, many of the same people participate in the formulation and review of the policies of the separate corporations, financing is carried on for the most part through the same channels, and in many other ways this group of corporations constitutes an interrelated interest group.

In the Rockefeller group are 6 major oil companies which own more than half of the total assets of that industry. Among the 14 corporations in the Mellon group are 3 members of the steel industry, the Jones & Laughlin Steel Corporation, the American Rolling Mill Co., and the Crucible Steel Co. of America. Among the 11 in the

[11] Ibid., p. 162.

Chicago group are 2 packing houses, Armour & Co. and Wilson & Co. Among the 8 in the Cleveland group are 6 iron and steel companies: The Cleveland-Cliffs Iron Co., the Interlake Iron Corporation, the Republic Steel Corporation, the Youngstown Sheet & Tube Co., the Inland Steel Co., and the Wheeling Steel Corporation. Of these groups, too, the committee says that [12]—

> It is not intended to imply that these aggregations of capital ever act as a unit under the rule of oligarchic dictatorships. The social and economic content of the relationships which bind them together are far more subtle and varied than this.

And it closes its report on the investigation with a question which it does not attempt to answer: "What is the significance of the existence of more or less closely integrated interest groupings for the pricing process?" [13]

MARKET DOMINANCE

In a number of important industries, where a few large firms are dominant, there is relatively little evidence of price leadership, price agreement, market sharing, or other monopolistic practices. During their early history, these industries have been characterized by a rapid development of technology and a steady expansion of output in response to growing demand. Over considerable periods of time, they have reduced their prices, improved the quality of their products, and given the consumer more for his money. In part, if not in all, of their activities, they may still appear to be engaged in active competition. But it is nonetheless impossible, at the present time, to classify them as effectively competitive. Their high degree of concentration, the substantial uniformity of their prices, and the insensitivity of these prices to changes in the volume of industrial activity compel their inclusion in the category of market dominance. This group may be illustrated by the automobile, electrical equipment, chemical, and rayon industries.

AUTOMOBILES

At the beginning of the century, an attempt was made to subject the automobile industry to control through the exercise of patent rights. The major producers, with the notable exception of Ford, united in the Association of Licensed Automobile Manufacturers and took out licenses under the Selden patent, which was said to cover the basic principles involved in the application of the internal combustion gasoline engine to the propulsion of motor vehicles. The members of this group were apparently of the opinion that the automobile was a luxury product which would be sold in a limited market at a high price and with a wide margin of profit. They made their cars larger and heavier and placed increasing emphasis on appointments, style, and other refinements. Ford, on the other hand, was the leading exponent of the view that the automobile could be sold in a wider market at a lower price and that larger profits could be obtained from a narrower margin on a greater volume of sales. He placed his emphasis on simplification, standardization, and mass production. In 1903, members of the association brought suit against Ford, charging infringement of the Sel-

[12] Ibid., p. 315.
[13] Ibid., p. 316.

den patent. A favorable decision would have enabled them to compel Ford to adopt their policies or to drive him from the field. In 1911, however, they lost their case, when the scope of the patent was restricted by a Federal court.

For many years, Ford led the industry in reducing prices and increasing sales. He cut the price of his Model T from $950 in 1909 to $360 in 1916 and, although he raised it during the First World War, he cut it again to $295 in 1923. So thoroughly did he believe in the wisdom of this policy that he slashed his prices in years when he could have sold his whole output at higher figures and when he faced no competition in the low-priced field. In 1911, Ford sold 20 percent of the new passenger cars registered in the United States; subsidiaries of the General Motors Corporation sold 18 percent; several other manufacturers sold the other 62 percent. In 1921, Ford sold more than 55 percent of the new cars. In 1923, he sold nine Fords to every Chevrolet. In that year, Ford accounted for 46 percent, General Motors for 20 percent, and the other producers for 34 percent of the output of the industry.[14] During this period, Ford made substantial profits, realizing more than 100 percent on his investment in several of the earlier years. It was his leadership that forced the rest of the industry to adopt the methods of mass production and to seek profits through the sale of a larger volume at a lower price.

After 1923, Ford lost ground. The low-priced automobile faced increasing competition from used cars of more expensive makes. The development of installment selling facilitated the sale of new cars at a higher price. The Chrysler Corporation, a powerful competitor, entered the field in 1925. Consumer preference shifted from the standardized Model T to cars of superior style and quality. Ford, who had said, in 1909, that "any customer can have a car painted any color that he wants so long as it is black," was forced to close his plants in 1927 in a belated effort to adapt his output to the changing character of the demand. In the process, he fell into second place. In 1929, General Motors sold 32 percent of the new automobiles; Ford sold 31 percent; Chrysler sold 8 percent; and the remaining firms sold more than 28 percent.[15] During this period, Ford abandoned the policy of cutting prices drastically and repeatedly and began to follow the rest of the industry in producing annual models and devoting the energies of his organization to improvements in style and quality.

The thirties were marked by growing concentration of production, accompanied by further shifts in the distribution of business among the major companies. In 1938, General Motors accounted for 45 percent, Chrysler for 25 percent, Ford for 20 percent, and all of the other producers for only 10 percent of the year's output of new passenger cars.[16] In some respects, the industry is still competitive. Dealers in used cars compete in price. Dealers in new cars compete in trade-in allowances and thus, indirectly, in price. The manufacturers compete in advertising and salesmanship, in style and quality, but they do not compete in price.

There can be no question that the industry has given the consumer more for his money from year to year. Its members, since 1914, have

[14] Federal Trade Commission, Motor Vehicle Industry, p. 29.
[15] Loc. cit.
[16] Ibid., p. 1058.

followed a liberal patent licensing policy and major improvements in quality have been generally adopted throughout the field.[17] Its product has approved in appearance, in comfort, in ease of manipulation, in brilliance of performance, in safety, and in durability. Costs of operation have declined. Increasing weight and speed have prevented a reduction in the cost per mile of gasoline. But, according to a report issued by the Automobile Manufacturers Association, the cost per mile of oil fell 46 percent and that of repairs 67 percent from 1926 to 1938.[18] While some of this reduction may be attributable to public expenditures on better roads, the major part of it must be credited to improvements in the cars themselves. "Consumer benefits from competition in the automobile manufacturing industry," says the Federal Trade Commission, "have probably been more substantial than in any other large industry studied by the Commission." [19]

The retail prices of automobiles are characterized by substantial uniformity and a high degree of inflexibility. Manufacturers announce the prices of their new models at approximately the same time, at the beginning of each season, on an f. o. b. basis at their factories. They ship parts to assembly plants located at various points throughout the country and sell assembled cars to dealers both from factories and from assembly plants. Dealers, in turn, sell to consumers at a delivered price which covers the f. o. b. price at the factory and a charge for delivering an assembled car from the factory to the delivery point. The prices of comparable models of different makes at any destination, while not identical, do not vary significantly. For a 1940 standard two-door sedan, delivered in Philadelphia, Ford charged $750.49, Chevrolet $756.85, and Plymouth $747. For a standard four-door sedan, they charged, respectively, $796.50, $797.85, and $788; for a de luxe four-door sedan, $857.85, $871.15, and $865. These prices are relatively rigid, both in frequency and amplitude of change. From January 1926 to April 1929, there were only 5 month-to-month changes in 39 chances; the average movement in these 5 cases was only 3.5 index points.[20] From 1929 to 1932, while production fell off 74 percent, the average price of motor vehicles was reduced by only 12 percent. From 1932 to 1937, when production rose by 64 percent, the price was increased only 2 percent.[21] In the fall of 1937, producers raised their prices, and although production declined severely in December of that year, they did not lower them in 1938.

The behavior of automobile prices is similar to that observed in cases where goods are effectively monopolized. The industry's pricing policy, however, is to be attributed to factors other than collusion among the manufacturers. Its products are not homogeneous; individualization permits each producer, within limits, to charge a different price. But ease of substitution must operate to keep these different prices within a narrow range. Because purchases are postponable and because a large supply of used cars is available, the industry believes that demand is inelastic, showing little or no response to price reductions in hard times. Manufacturers, moreover, are under obligation to their dealers to protect the used car market, a factor

[17] Hearings before the Temporary National Economic Committee, Part 2, pp. 256–372.
[18] Automobile Manufacturers Association, Automobile Facts and Figures (21st Ed., 1939), p. 49.
[19] Federal Trade Commission, op. cit., p. 1074.
[20] Nelson and Keim, op. cit., p. 180.
[21] National Resources Committee, op. cit., p. 386.

which restrains them from putting out a low-priced, low-horsepower, economy model, or from slashing the prices of Plymouths, Fords, and Chevrolets. There is some evidence, finally, that Ford is still the price leader of the industry. All of the other important producers belong to the Automobile Manufacturers Association, which Ford has never joined. At a meeting of the sales managers committee of this association in 1932, Mr. R. H. Grant, chairman of the committee and vice president of General Motors, said:[22]

When the Ford model A came out, coaches were more potent than now. They were the keystone of the situation. He fixed the price of the coach $25 below the point at which it should have been fixed, from a cost standpoint. We followed suit and have been doing it ever since, and so has he.

At another meeting, later in the same year, Mr. Grant said to the committee:[23]

Mr. Ford, who won't play, is pretty much the price setter in this industry. I'll bet if Mr. Ford's cars were $50 higher, ours would be $50 higher. We care about Ford. We have been struggling with him for years.

In April 1934, when Ford failed to follow Chevrolet and Plymouth in raising the prices of certain models, his sales increased at their expense and in June they cut the prices they had raised. Again in 1939, Fortune reported that the other producers customarily fixed their prices within the lower limit set by their estimates of production costs and the upper limit set by Ford.[24] His independence of action, says the Federal Trade Commission, "has been a keen disappointment to other more cooperative-minded motor vehicle manufacturers in the industry, particularly in the low-price field, for it compelled them to price their cars lower than otherwise might have been the case."[25]

In the automobile business, during the 11 years from 1927 through 1937, the price leader failed to break even, while his most important followers made profits at amazing rates. Their net deficits and net profits as percentages of their investments in the motor vehicle business were as follows:

Year	Ford Motor Co.[1]		Chrysler Corporation[2]		General Motors Corporation[3]	
	Deficit	Profit	Deficit	Profit	Deficit	Profit
1927	5.21			57.22		63.05
1928	12.47			41.09		66.24
1929		15.26		21.35		51.54
1930		5.81		.64		26.80
1931	6.71			5.08		22.32
1932	13.89		9.75		0.28	
1933	2.16			20.44		19.33
1934		4.26		12.17		22.70
1935		.20		45.93		34.87
1936		26		74.46		43.77
1937		.76		59.44		37.30
Annual average	.80			28.59		35.50

[1] Federal Trade Commission, Motor Vehicle Industry, p. 671, table 72.
[2] Ibid., p. 567, table 44.
[3] Ibid., p. 487, table 16.

In these 11 years, General Motors made more money than any other manufacturing corporation in the United States, deriving 61.4 per-

[22] Federal Trade Commission, op. cit., p. 33.
[23] Loc. cit.
[24] Fortune, March 1939, pp. 142, 145.
[25] Federal Trade Commission, op. cit., p. 33.

cent of its total profits from its motor-vehicle divisions, 22.4 percent from its accessories and parts divisions, and only 16.2 percent from all its other operations.[26] Over the same period, the Studebaker Corporation realized an average annual return of 6.13 percent; the Hudson Motor Car Co., 9.40 percent; the Packard Motor Co., 21.25 percent; and the Nash Motor Co., 36.90 percent.[27] These figures do not support the view that there is active competition in the field. Certainly, Ford has not succeeded in forcing his rivals to keep their prices closely related to their costs. One can only wonder where they could put these prices if Ford were able to set a stiffer pace, or where they would put them if he should drop out of the race. It is clear, at least, that the behavior of the other members of the industry is not effectively competitive.

ELECTRICAL EQUIPMENT

The electrical manufacturing industry comprises some 1,800 firms engaged in the production of many varieties of equipment for public utility and other industries and numerous appliances for household use. Its sales, in 1937, were near $2,500,000,000; imports, by comparison, were negligible. Twenty-five producers accounted for half of the total output and the two long-line producers, the General Electric Co. and the Westinghouse Electric & Manufacturing Co., accounted for a fifth. General Electric, with sales close to $350,000,000, and Westinghouse, with sales above $200,000,000, were clearly dominant.[28]

The degree of concentration of production differs among the major divisions of the industry and among the several products in each field. In 1935, the eight largest firms manufactured 52.3 percent and the four largest 44.4 percent of the total output of electrical machinery, apparatus, and supplies, other than household appliances.[29] In 1937, the four leading producers, in each case, made 65.8 percent of the electrical signaling apparatus, 76.3 percent of the resistance furnaces, 79.2 percent of the direct current welding apparatus, 81.2 percent of the alternating current generators, from 60.6 to 92.8 percent of various types of motors, from 50.6 to 95.6 percent of the transformers, induction voltage regulators, etc., and from 43.8 to 97.0 percent of the switchboards, circuit breakers, and switches. In the household appliance division of the industry, they made 41.9 percent of the nonautomatic toasters, 53.0 percent of the washing machines, 54.4 percent of the desk fans, 69.6 percent of the vacuum cleaners, from 69.2 to 76.8 percent of the various sizes of refrigerators, 78.9 percent of the storage water heaters, 81.0 percent of the glass coffee pots and urns, 59.5 to 84.7 percent of various types of flatirons, and 85.9 percent of the kitchen mixers and whippers.[30] In the production of machinery and apparatus used in the generation and distribution of power and light, General Electric and Westinghouse are preeminent, accounting for three-quarters of the total output in 1923, for four-fifths of the transformers produced in that year, and for nearly nine-tenths of the generators in use in 1925.[31] In the electric lamp business, General

[26] Ibid., pp. 1060–1061.
[27] Ibid., p. 1062.
[28] Fortune, February 1938, p. 43.
[29] National Resources Committee, op. cit., pp. 248–249.
[30] Thorp and Crowder, loc. cit.
[31] Federal Trade Commission, Supply of Electrical Equipment and Competitive Conditions, pp. 74, 75, 110.

Electric shares a duopoly of metal bases with Westinghouse and a duopoly of large glass bulbs, glass tubing, and rods with the Corning Glass Works.[32] In the manufacture of telephone apparatus and equipment, the Western Electric Co., a subsidiary of the American Telephone & Telegraph Co., provides nine-tenths of the supply.[33]

Aside from the exceptional situation which exists in the telephone field, the two long-line companies appear, in general, to enjoy a marked advantage over their short-line competitors. They maintain large research laboratories and hold many patents. They can supply power plants with complete equipment of their own manufacture. They can bid on orders in which various types of equipment are combined. They can hold customers by offering quantity discounts. Their extensive sales and service organizations give them an advantage over firms making a single product in selling each of the items in their lines. They have secured the loyalty of dealers by providing financial assistance and establishing exclusive agencies. At one time, they obtained preferred positions in the market for heavy equipment by lending money to power companies at easy rates.[34] Before 1925, through its control of the Electric Bond & Share Co., whose operating subsidiaries produced an eighth of the Nation's output of electrical energy, General Electric secured a lead in the utility market which its rivals have never been able to overtake.[35]

The household appliance branch of the industry has been characterized, in recent years, by fairly active competition, both in quality and price.[36] The production of small motors also appears to have been competitive; the wholesale price of quarter-horsepower motors was reduced from about $15 to about $5 from 1925 to 1936.[37] In 1928, the Federal Trade Commission reported that it had found extensive evidence of price and service competition in the heavy equipment division of the industry.[38] In 1936, however, the Commission ordered General Electric and other members of the National Electrical Manufacturers Association to cease and desist from maintaining identical prices, terms, and conditions in the sale of power cable and wire.[39] In 1937, it issued a similar order against General Electric, Westinghouse, the Allis-Chalmers Manufacturing Co., and the Elliott Co. as producers of turbine generators, and against the last three concerns as producers of condensers, finding that they had agreed to adhere to uniform delivered prices and performance guaranties, each of them adopting the pricing sheets and performance data which one of them supplied.[40] In 1939, a study of Government purchasing revealed 1,798 instances of identical bidding in the sale of generators, transformers, rheostats, meters, switchboards, switches, conduit, line hardware and equipment, motors, bulbs, batteries, and several other types of apparatus and accessories. In 558 of the openings, all of the bids were identical; in 397, the two or more lowest bids were identical.[41] In August 1940, the

[32] Cf. supra, pp. 104–106.
[33] Cf. supra, pp. 83, 87.
[34] Federal Trade Commission, op. cit., pp. 21, 29, 87–93, 115–118.
[35] Fortune, op. cit., p. 49.
[36] Cf. supra, pp. 51–52.
[37] Nourse and Drury, op. cit., p. 67.
[38] Federal Trade Commission, op. cit., pp. 73, 93–94, 101–102, 104, 108, 112, 113, 123–124.
[39] Cf. infra, p. 247.
[40] Federal Trade Commission, Order, Docket 2941 (1937).
[41] Procurement Division Group, Treasury Department Subcommittee, Temporary National Economic Committee, Study of Government Purchasing Activities, p. 96.

Department of Justice brought two suits against the General Electric Co. In one, it charged that the company had entered into an agreement, in 1928, with the German firm of Krupp, obtaining the right to fix the price in the American market of certain patented compounds used in the hardening of machine tools; that it had raised the price of one such compound from $48 to $453 a pound, reducing it subsequently to $205; that it had further agreed in 1936 to refrain from entering the other markets of the world, obtaining from Krupp a promise not to sell in the United States; that its subsidiary, the Carboloy Co., in granting licenses to five producers of the compounds, had prescribed the prices they could charge; and that this concern had organized a bureau to police the trade.[42] In the other suit, the Department charged that General Electric had conspired with the Corning Glass Works and the Philips Glowlamp Works, an important manufacturer of lamps in Holland, using as an intermediary another Dutch concern, to monopolize the supply of electric lamp bulbs and tubes in the United States by excluding the Dutch product from the North American market.[43] As early as 1920, a parliamentary committee in Great Britain had observed that General Electric controlled one British lamp producer directly and another indirectly, through the Philips Glowlamp Works, and stated that: "There is already an arrangement between America and England whereby the respective markets are allocated and British Associated Manufacturers are prevented from exporting to the United States of America, Mexico, and Japan." [44] It appears, therefore, that the status of competition in the industry varies from product to product and from year to year.

Westinghouse realized an average annual return of 3.6 percent on its investment in the decade from 1929 through 1938, losing 5 percent in 1933 and making 11 percent in 1937. General Electric averaged 10.1 percent, with a low of 4 percent in 1933 and a high of 19 percent in 1937. No break-down of profits by industrial divisions is available, but it is noted that margins are higher on heavy equipment than on household appliances.[45]

CHEMICALS

The production of chemicals is one of the most rapidly expanding of American industries and one of the most tightly disciplined. Despite the disturbances occasioned by the continuous development of new products and processes, it has succeeded in avoiding the rigors of energetic competition. It is an "orderly" industry. Prices are steady and insensitive to the deflationary influences of depression; "overproduction" is seldom permitted to occur; profits are not sacrificed to volume; producers have not been known to struggle for position at the expense of their competitors. The industry's instincts, according to Fortune, "are all against pushing and crowding"; by and large, it "has regulated itself in a manner that would please even a Soviet commissar." [46]

[42] *U. S.* v. *General Electric Company, Friedrich Krupp Aktiengesellschaft, et al.,* District Court of the United States, Southern District of New York, Indictment, August 30, 1940.

[43] *U. S.* v. *Corning Glass Works et al.,* District Court of the United States, Southern District of New York, Indictment, August 28, 1940.

[44] Committee on Trusts, Findings and Decisions of a Subcommittee on the Electric Lamp Industry, Cmd. 622 (1920), pp. 13–14; quoted in Alfred Plummer, International Combines in Modern Industry (Second Ed., London, 1938), pp. 87–88.

[45] Standard Trade and Securities, Electrical Products, Basic Survey, Part II, vol. 93, No. 20, sec. 3, September 8, 1939.

[46] Fortune, December 1937, p. 157.

The field is clearly dominated by three firms, E. I. du Pont de Nemours & Co., the Allied Chemical & Dye Corporation, and the Union Carbide & Carbon Corporation. All three are highly diversified, being integrated both horizontally and vertically; du Pont and Union Carbide are active in many related lines which do not fall within a narrow definition of the industry. The American Cyanamid Co., the Monsanto Chemical Co., and the Dow Chemical Co. occupy the next three places in the field. The position of the market leaders has been attained largely through combinations and by acquiring the stock or assets of other firms. Since 1915, du Pont has bought the voting control or the properties of more than 20 corporations. Allied Chemical is the product of a combination, at the end of the First World War, of 5 large companies, 1 of which had previously bought up a number of competitors. Union Carbide, formed by a merger in 1917, has 28 subsidiaries, several of them engaged in the production of chemicals. There were many consolidations during the 1920's; from 1919 to 1929, while output rose nearly 40 percent, the number of establishments in the industry declined by more than 20 percent. By the end of the decade, according to Hempel, "the great financial interests had pretty well completed a rearrangement of ownership which strengthened the vertical and horizontal integration of the great chemical groups in a manner satisfactory to all. Thus peace was assured for the doubtful period to come." [47]

The bulk of the output of many chemicals is concentrated in the hands of a few firms. Among 200 chemical raw materials manufactured by some 600 companies covered in a survey made by a trade journal in 1939, there were 35 with 5 producers, 21 with 4, 11 with 3, and 7 with only 2; thus 74, more than one-third of those in the group, were made by less than 6 concerns.[48] Among 75 chemicals included in the Bureau of Foreign and Domestic Commerce study of concentration of output in 1937, there were 11 where the 4 leading firms produced between 40 and 70 percent, 17 where they produced between 70 and 100 percent, and 10, including products as important as synthetic methyl alcohol and calcium carbide, where they produced 100 percent. In 37 cases, including soda ash, chemically pure glycerin, nitrocellulose (pyroxylin), and cellulose acetate, information was withheld because the degree of concentration was so high that it could not be revealed under the census disclosure rule. Among 212 items in a group of chemicals and allied products, for which figures were given showing the share of the leading firm, there were 112 where this share was over 35 percent, 41 where it was over 50 percent, and 13 where it was over 65 percent.[49] The subsidiaries of Allied Chemical, in 1937, produced some 28 percent of the sulfuric acid made for sale, 29 percent of the caustic soda, 38 percent of the coal tar, 40 percent of the aluminum sulfate, 45 percent of the soda ash, 66 percent of the ammonium sulfate and benzol, and all of the sodium nitrate made in the United States.[50] Du Pont and Allied Chemical are each believed to produce about 30 percent and American Cyanamid another 15 percent of the

[47] Edward H. Hempel, The Economics of the Chemical Industries (New York, 1939), p. 35.
[48] Chemical and Metallurgical Engineering, September 1939, pp. 572–600.
[49] Thorp and Crowder, loc. cit.
[50] Fortune, October 1939, pp. 45 ff.

output of dyestuffs, together accounting for three-fourths of the supply.[51]

The industry has attempted, at various times, to fix prices, delimit sales territories, and assign production quotas. Three of its largest firms were involved in orders issued by the Federal Trade Commission in 1938. Allied Chemical, Monsanto, and seven other companies, producing nearly all of the output of liquid chlorine, had entered into an agreement to fix its price in 1931; Allied Chemical, Dow, and two other firms, producing all of the flake calcium chloride, had conspired to fix its price in 1937–38.[52] Other means of suppressing competition are at hand. There are thousands of patents in the field; du Pont alone, at the end of 1937, owned nearly 5,000 unexpired patents and had licenses to operate under 1,100 more. There are more than 200 trade associations, representing 45 chemical and allied industries. Of one of these bodies, Fortune says:[53]

> The Manufacturing Chemists' Association, to which most of the "proprietors" in the industry belong, is a quiet but active lobby, yet it is other things as well. It denies that it ever talks about prices—who can say that it does not discuss costs?

Members of the industry are also said to have attempted to establish mutuality of interest by acquiring stock in competing companies and by offering directorships to the executives of such concerns.[54]

The "orderliness" of the trade is reflected in the behavior of its prices and the level of its profits. From January 1926 to December 1933, the prices of more than half of 51 chemicals included in the Bureau of Labor Statistics index changed less than 12 times; those of 11 changed less than 5 times; those of calcium carbide and coal tar (indigo) changed only twice; the price of liquid carbon dioxide did not change at all. In February 1933, the prices of 12 of the industry's products, including nitric acid, sulfuric acid, aqua ammonia, calcium carbide, and coal tars, stood exactly where they had in June 1929; the prices of 9 had risen, those of anhydrous ammonia and sal soda 11 percent, that of napthalene 22 percent, and that of phosphoric acid 65 percent.[55] The prices of seven chemicals were the same in 1929, 1932, and 1937.[56] The industry's leaders have enjoyed prosperity in recent years. From 1934 through 1938, du Pont realized an average annual return of 10.6 percent on tangible net worth; Union Carbide made 12.8 percent, Allied Chemical, 13.9 percent; Monsanto, 14.2 percent; and Dow, 15.5 percent.[57]

RAYON [57a]

But for the uses to which its product is put, the rayon industry would have nothing in common with the textile trades. In virtually every other respect—in its processes, rapid growth, concentrated control, administered prices, and high profits—it bears the stamp of a chemical industry.

[51] Ibid., September 1940, p. 102.
[52] Federal Trade Commission, Orders, Dockets 3317, 3519 (1938).
[53] Fortune, December 1937, p. 157.
[54] Theodore J. Kreps, "The Chemical Industries," in George B. Galloway (ed.), Industrial Planning Under Codes (New York, 1935), p. 229.
[55] Nelson and Keim, op. cit., pp. 183–184.
[56] National Resources Committee, op. cit., p. 197.
[57] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 1, pp. 256–258. Comparable figures for American Cyanamid are not available, but it is known that this company is the least profitable of the "Big Six."
[57a] This section was written by Kermit Gordon.

Rayon is a synthetic textile fiber born with the twentieth century. The basic processes for its manufacture were all invented in Europe, and those in use in the United States today involve the passage of a thick cellulose solution (derived from cotton linters, spruce wood, or western hemlock) through the tiny holes of a metal "spinnerette" into a chemical bath or a current of warm air, which hardens the cellulose streams into filaments. Devised as a substitute for silk and called in the early days of its development "artificial silk," rayon was inflexible, coarse, weak, and excessively glossy. By brilliant chemical research, however, the product has been steadily improved, until it has become in some respects superior to silk; the layman is often unable to tell the difference between silk and rayon fabrics. The industry grew with amazing rapidity. American production of rayon yarn and staple fiber [58] rose from 10,000,000 pounds in 1920 to 122,000,000 pounds in 1929 and 342,000,000 pounds in 1937, in which year it was valued at $211,000,000. Consumption of rayon passed that of silk in 1927 and drew abreast of wool in 1938.

Holding the American rights to the use of the viscose process patented by two English chemists, the American Viscose Co., from 1909 to 1920, had a complete monopoly of the manufacture of rayon in the United States. When its patent protection lapsed in 1920, new companies began to enter the field, and by 1938, 29 were making rayon yarn and staple. Three firms, however, produced 67 percent of the total output. Viscose had 30 percent, the rayon department of E. I. du Pont de Nemours & Co. 22 percent, and the Celanese Corporation of America 15 percent.[59] With the addition of the German-Dutch group of companies—the North American Rayon Corporation, the American Enka Corporation, and the American Bemberg Corporation—which were subject to common control and hence can be considered a single company, the four largest firms had about 81 percent of total output. While Viscose held monopolistic sway, it took full advantage of its position. During the first 11 years of its operations, according to Fortune, the company made an average net profit (before taxes) of more than 70 percent on sales. In 1920 Viscose made rayon yarn at a cost of 60 cents a pound and sold it for $4.93 a pound.[60] Starting from the fantastically high level to which Viscose had pushed them in 1920, rayon prices have fallen with few interruptions ever since. In 1921 the price of yarn [61] was $2.67 a pound; in 1925, $2; in 1929, $1.24; in 1933, 61 cents; in 1939, 52 cents.[62] It should be noted, however, that not until the depths of the depression of the thirties did the price reach a point equivalent to the cost at which Viscose had been producing yarn in 1920. Production costs, of course, had declined during this period as techniques were perfected and output soared.

Price-making in rayon bears many of the characteristics commonly found in industries where a few firms are dominant. First, prices are not permitted to reflect short-run changes in supply and demand.

[58] Staple fiber, which has not yet achieved in this country the importance which it enjoys abroad, is made by cutting rayon filaments into short fibers and spinning them into a yarn which can be used as a substitute for wool in woven or knit goods.

[59] Cf. Federal Trade Commission, Digest of Studies of Long-Term Profits * * * (photostat, 1940), p. 114.

[60] Fortune, July 1937, pp. 40, 106.

[61] A grade, 150 denier, first quality.

[62] Cf. Federal Trade Commission, op. cit., p. 123; Bureau of Labor Statistics, Wholesale Prices (monthly).

Over the short period, rayon prices are very stable. The quotation for the largest-selling grade (150 A denier) did not change from the spring of 1927 to the beginning of 1929, for nearly a year in 1929–30, and for more than a year in 1931–32. More recently, the price remained unchanged for 9 months in 1935–36, 1936–37, and again in 1937.[63] Second, prices are substantially uniform, and although there are occasional lapses by some of the smaller companies, the producers seem on the whole content to follow the price leaders, Viscose and du Pont. From December 1933 to January 1939, Viscose and du Pont prices for 150 denier were identical. At least twice the companies changed their prices from the same figure to the same figure on the same day, several times within a few days. An inspection of the quotations of the various producers between December 1934 and July 1938 reveals that Viscose or du Pont or both in seven out of eight cases were among the groups of two or three companies which led off with price changes. Fortune's observation is pertinent here:[64]

> Competitors have indeed arisen—but not to take business away from Viscose so much as to fatten on the business that Viscose couldn't handle.

Under the impact of the 1929 depression, the tacit restraint in pricing which normally prevails took a more explicit form. From October 1931 to May 1932, Viscose, du Pont, and eight other firms entered into an agreement to fix uniform prices for viscose yarn, of which they produced substantially the entire output. The Federal Trade Commission in 1937 ordered the companies to cease and desist.[65] After the price conspiracy was suspended, but with stocks still greatly in excess of orders, the major viscose producers shut down their plants in the middle of June 1932, and kept them closed until the middle of August.

Often the mere fact of a high degree of concentration of control is sufficient to account for such phenomena as the harmonious relations among rayon producers. In this case, however, there may be a further explanation, although its weight is difficult to gage. The European rayon industry is—or at least was until the outbreak of the war which began in 1939—a tangled mass of interlacing interests extending across national borders, and a large section of the American industry is involved in this web. Courtaulds, Ltd., the great English rayon company, owns about 95 percent of the capital stock of Viscose. The leading German producer, Vereinigte Glanzstoff Fabriken A. G. founded with Courtaulds in 1926 the German firm of Glanzstoff-Courtaulds G. m. b. H. Among the various foreign holdings of Glanzstoff are participations in American Bemberg and North American Rayon (formerly the American Glanzstoff Corporation). The officers and directors of North American hold the same positions with American Bemberg. In 1929 Glanzstoff executed an arrangement resembling a merger with a Netherlands company, resulting in the establishment of the Dutch firm of Algemeene Kunstzijde Unie, N. V., in which Courtaulds also held shares. American Enka is a subsidiary of A. K. U., and a number of officers of North American and American Bemberg are also officers of American Enka. In 1925 Courtaulds and the Glanzstoff group entered into an agreement which included an

[63] Bureau of Labor Statistics, op. cit.
[64] Fortune, op. cit., p. 110.
[65] Docket No. 2161.

exchange of shares with Snia. Viscosa, the principal Italian producer. In the same year the Industrial Rayon Corporation, a middle-size American firm, acquired control of the Industrial Fibre Corporation, in which an Italian rayon group held an interest; it was not disclosed whether the Italians relinquished their participation at this time. Courtaulds also had a working agreement with the French rayon combine; a French group held a 40 percent interest in the Du Pont Rayon Company [66] until 1929, when they were bought out by du Pont. At a later date, du Pont still had patent agreements with the French producers. Finally, Celanese is controlled by the Dreyfus Bros., who also control British Celanese, Ltd., and Canadian Celanese, Ltd.[67] Since the European community of interest, described by Plummer as "more than a gigantic international cartel," [68] had a profound effect on competitive conditions abroad, it is not unreasonable to suppose that the lines of authority and influence which ran from it to the American industry may have had somewhat similar consequences here. At least the behavior of rayon prices in this country has not been inconsistent with such a hypothesis.

Handsome profits have been the reward of the rayon industry. Between 1915 and 1938, the average annual return on stockholders' investment in eight of the largest concerns—all of the companies but Viscose having been in business for only a part of this period—was 14.2 percent. From 1915 to 1920, when Viscose was the only producer, annual profits ranged from 26 percent to 109 percent of stockholders' investment. From 1921 to 1929, during which period du Pont, Celanese, and other firms entered the field, profits ranged from 18 to 50 percent. From 1930 to 1938, they ranged from 1 percent to 12 percent. Viscose, from 1915 to 1938, had an average annual return of 21.3 percent, du Pont (rayon department) from 1921 to 1938, made 11.5 percent, and Celanese, from 1925 to 1938, averaged 10.2 percent. The above figure understates Viscose's true rayon profits, since the company had large holdings of nontaxable Government securities and private stocks and bonds yielding a return much lower than that earned by Viscose in its own business. Eliminating these outside holdings, Viscose from 1915 to 1938, had an average annual return of 37.5 percent on its investment in the rayon business. Courtaulds' total out-of-pocket investment in Viscose was $930,000; the company's expansion has been financed entirely out of earnings.[69] Over the 24-year period, Viscose had aggregate net profits of $354,000,000, or more than 38,000 percent of the original investment. In the same years, Viscose paid dividends, mostly to Courtaulds, of $237,000,000, or about 25,500 percent of the Courtaulds investment. The ratio of Viscose net profits to its sales of about $1,025,000,000 was 35 percent.[70] Reviewing the company's financial history, Fortune comments: [71]

* * * American Viscose, modest, secretive, and unknown, is one of the industrial miracles of our time—a phenomenon comparable to Standard Oil, or the automobile empire of Henry Ford.

[66] In 1936 this firm was dissolved and became a division of the parent company.
[67] Cf. Plummer, op. cit., pp. 35–38; Moody's Industrials; Fortune, October 1933, p. 53.
[68] Plummer, op. cit., p. 35.
[69] Fortune, July 1937, p. 106.
[70] Cf. Federal Trade Commission, Digest of Studies of Long-Term Profits * * *, chapter on rayon.
[71] Fortune, op. cit., pp. 40–41.

LOCAL MARKETS

There are local markets, as well as regional and national markets, in which a few sellers control the bulk of the supply of important goods or services. Here again, noncompetitive conditions are likely to obtain. Prices may be established through agreement or through leadership, markets may be shared, and outsiders may be excluded from the field. Conditions which probably exist in certain other local trades may be illustrated by those which typify the sale of commercial banking services and the distribution of fluid milk.

COMMERCIAL BANKING

Among 12,003 cities and towns in the United States in 1936, there were 8,962 with only one bank, 2,201 with only two banks, 723 with three, four, or five banks, and only 117 with more than five. In three-fourths of these communities, containing more than half of the banks in the country, a single banker enjoyed a monopoly of the local trade. In nearly a fifth of them, containing more than a fourth of the banks, two bankers possessed a duopoly.[72] The customers of such bankers are free, of course, to take their business to another town. But this alternative is inconvenient, expensive, and frequently unreal; the next town may be distant; its banker, unfamiliar with local credit risks, may be reluctant to make loans; its bank and the local bank may both be branches of the same firm or units in the same group or chain. More than three-fourths of the country's banks are thus afforded protection against internal or external competition. Nearly one-fourth of them, however, are located in the communities where three or more banks are found. But even here the banking business is not effectively competitive. In some sections of a city, there may be a single bank; in others, one bank may have a better location than its rivals or possess superior prestige. Large customers may shift readily from bank to bank; small customers are unlikely to do so. Even though they might incur lower service charges, obtain a higher rate of interest on time deposits, and borrow at a lower rate elsewhere, they continue to deal at the same bank, being held by ignorance of these alternatives, by the requirement that they maintain minimum deposit balances in order to protect their ability to borrow, by the belief that high service charges and low interest payments are signs of strength, by personal contacts, by convenience, and by habit. Since it can retain deposits without meeting the charges or the payments made by its competitors, and since it can continue to lend without meeting their interest rates, every commercial bank enjoys a measure of monopoly power.

Interest rates on short-term, open-market loans are determined by free competition, fluctuating widely with variations in demand and supply. Rates on loans to large customers are likewise affected by their ability to borrow elsewhere. But service charges, rates on time deposits, and rates on loans to small customers are not subject to competitive restraints. Since their contracts with borrowers are secret, banks are free to discriminate. Loans of the same size, with the same maturity, involving the same risk, are made to different borrowers at different rates. Even when rates are nominally the same, the cost of

[72] Chandler, op. cit., p. 7.

credit may be raised by employing a method of computing interest which is unfavorable to the borrower, by requiring him to maintain a minimum deposit balance, and by imposing various service charges, or it may be lowered by employing a favorable method of computation and by waiving the deposit requirement and the service charges. There is thus no common rate in the market where banks sell credit to their customers. The prices charged for the use of money vary from city to city, from bank to bank, and from borrower to borrower within a single bank. Large borrowers, possessing alternatives, pay lower rates; small borrowers, lacking them, pay higher rates. The latter rates, moreover, are rigidly maintained for years at a time. They are not raised in periods of credit stringency because they are set at the highest figures which the laws allow. They are not reduced when credit is easy because there is no competitive pressure to bring them down. Discrimination and rigidity would stamp these charges as monopolistic even if it were assumed that bankers always acted independently. But agreement is not foreign to the field.

Commercial banks are united in National, State, and local bankers' associations and in city, county, and regional clearing houses. There are some 350 city clearing houses and some 250 county and regional clearing houses in the United States. The latter organizations, with memberships ranging from 10 banks in 1 county to 100 banks in 10 counties, are largely a development of the past decade. The bankers' associations have preached the evils of competition and the benefits of cooperation for many years. But it is through the rules adopted by the clearing houses that common action has been obtained. These rules prescribe the method by which interest is to be computed, specify the minimum balance which is to be required, limit the free services that may be rendered, regulate advertising expenditures, fix interest rates on time deposits, and establish uniform charges for checking, clearing, collection, exchange, and trust services. Thus, according to Chandler, "most of the service charges in effect at the present time have been determined and imposed by collusive action." [73] In many cases, too, clearing house members have discouraged borrowers from "shopping around" by exchanging credit information and have shared the market by sending such "shoppers" back to their own banks.[74] They have also cooperated in seeking legislation which would limit competition in the trade, supporting the provisions of the Banking Acts of 1933 and 1935 which prohibit banks under the supervision of the Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation from paying interest on demand deposits and grant these agencies the power to fix maximum rates of interest on time deposits. And finally, in many instances, they have ceased to compete in bidding for deposits of public funds.[75]

Through collective action, commercial banks have thus increased their incomes by adopting common methods of interest computation, by requiring minimum deposit balances, by imposing service charges, and by sharing customers for loans. At the same time, they have reduced their costs by cutting advertising expenditures, by discontinuing free services, by ceasing to compete for public deposits, by eliminating interest on demand deposits, and by lowering the rate of interest on

[73] Ibid., p. 15.
[74] Ibid., p. 14.
[75] Ibid., p. 13.

time deposits. Rising incomes and falling costs must operate to augment banking profits. It is argued, of course, that they also make for greater safety, but this contention is rejected by economists. As Chandler has observed, "Banking standards will not necessarily be improved by permitting banks to add through collusion to the monopoly power which they already possess." [76]

MILK

Because milk is heavy and bulky in relation to its value, because it is perishable and easily contaminated, and because it cannot be sold in many cities unless their health officials have inspected the dairies where it is produced, its markets are limited in extent. Producers in the milksheds which serve these markets are small and numerous; the distributors to whom they sell are large and few. The bulk of the milk sold in the typical city, coming from thousands of dairy farms, is distributed by two or three concerns. Unorganized, the farmer would be at a disadvantage in making his sale; organized, he can bargain collectively for better terms. Milk producers have therefore established cooperative associations and, through these associations, have entered into negotiations with distributors for the purpose of fixing the farmer's price. This price is thus a product, not of open competition, but of private agreement. In some cases, however, a cooperative has been influenced, dominated, or controlled by a distributor. Thus, in the New York market, the Sheffield Producers' Cooperative Association was organized by the Sheffield Farms Co., sells all of its milk to Sheffield Farms, and is said to be controlled by that concern.[77] The price that is established under such circumstances cannot even be regarded as the outcome of two-party, arm's-length bargaining.

In many urban markets, the price that the consumer pays for milk is likewise noncompetitive. Although he does not participate in the negotiations which lead to the agreement between producers and distributors, the price he pays is nonetheless determined or affected by its terms. He is free to buy from one distributor rather than another; wherever he buys he may be charged the same amount. Competition exists in the duplication of delivery services, in brand names, advertising, and salesmanship. In many cities, competition in price does not occur. Where it has arisen, it has come from independent dealers who have sold to peddlers and through stores. Since store distribution is less expensive than delivery, storekeepers have been able to undercut the delivered price. But since the large distributors have invested heavily in delivery facilities, and since they would rather deal with housewives than with price-conscious merchants, they have generally sought to check store sales. In this effort they have been aided by the organized farmers, who feel that their price depends upon the retail price, by members of the milk wagon drivers' union, whose jobs depend upon the retention of the high-cost system of home delivery, and, in some cases, by local health authorities. Cooperatives, union locals, and health officials have brought pressure to bear against price-cutting and unorthodox dealers; the dominant distributors, in control of local milk bottle exchanges, have denied them equal privileges. Municipal

[76] Ibid., p. 17.
[77] Federal Trade Commission, Report on the Sale and Distribution of Milk and Milk Products, New York Sales Area, p. 98.

ordinances and State laws, sponsored by these groups, have obstructed entrance to the market and hampered price cutters. Local inspection requirements have prevented the importation of milk from distant points. Pasteurization ordinances have excluded the small producer-distributor of raw milk from the field. Necessitating heavy investments in processing plants, they have likewise operated to hinder the entrance of new firms into the business of pasteurization and distribution. Other enactments have provided for the establishment of a minimum retail price, forbidden the sale of milk over the counter at a price lower than that charged for delivery, and discriminated against paper containers, the use of which facilitates store sales. All of these arrangements have had the effect of checking competition among distributors.

The payments that are made to the farmer are based upon an f. o. b. price at the city plant, which is subject to deductions for haulage, terminal, and other charges. They depend, also, upon the quantity and quality of his output and upon the uses to which it is put. For the portion of this output that is distributed to consumers as fluid milk, since it is sold in the sheltered urban market, he gets a higher price. For the "surplus" milk that is diverted to the manufacture of butter, cheese, and other dairy products, since it must compete with that produced outside the local milkshed, he gets a lower price. Distributors have sometimes augmented their profits by deducting from their payments to the farmer transportation and other charges in excess of those actually incurred, by understating the quantity and the quality of his deliveries, and by secretly diverting to the fluid market some of the milk acquired at the lower "surplus" rate. It is the function of the cooperatives to prevent such abuses by inspecting company records and accounts. But where a cooperative is controlled by a distributor, this function may not be performed. In the New York milkshed, in 1938, no cooperative had ever made an independent examination of a company's books. The State department of agriculture, however, had made a number of such audits and, in the case of Sheffield producers alone, had obtained restitution of some $250,000 between 1932 and 1936.[78]

The retail price of milk in many cities has remained unchanged during long periods of time, responding slowly in depression to losses in demand. This price is also unaffected from season to season, and from year to year by variations in supply. When farmers within the urban milkshed increase their output, the retail price does not decline. The distributor sells as fluid milk only the quantity that the market will take at the established price; he sells the rest as "surplus." As an increasing portion of his output brings the lower "surplus" price, the farmer's average return per quart declines. If losses are involved, they fall on him. The distributor, normally assured of fixed prices in both purchases and sales of fluid milk, is unconcerned. When he charges the consumer less, he pays the farmer less; when he pays the farmer more, he charges the consumer more. His margin is consistently maintained. In New York State, from 1930 to 1939, the farmer's price fluctuated between 2.7 cents and 6.2 cents per quart, the distribution spread only between 7.1 cents and 8.8 cents.[79] When the distrib-

[78] John J. Bennett, Jr., attorney general, Report on the Milk Industry of the State of New York, 1938, p. 44.
[79] Caroline Whitney, What Price Milk? (New York, 1939), p. 48.

utor gives the farmer another fraction of a cent per quart, he may add a larger fraction or a full cent to the retail price. The remaining fraction goes to widen his margin. Distributors' margins have indeed been wide. In forty markets, in 1932, they averaged 5.8 cents per quart, ranging from 3.9 cents to 9.6 cents.[80] In 12 large cities, in 1938, the average retail price was 12.38 cents per quart; the farmer's f. o. b. price at the city plants was 5.56 cents; the distributor's spread was 6.82 cents.[81]

The distribution of fluid milk in many urban areas is dominated by the two giants of the dairy products industry, the National Dairy Products Corporation and the Borden Co. National Dairy is a holding company, organized in 1923, whose 77 active American subsidiaries are now engaged in every section of the field. According to its president:[82]

* * * we are incorporated in every State in the United States, I think; we do business in every State with our distribution system which is quite an extensive one. We are in practically every city that has a road into it with our own mechanical unit or our truck once a week; so that we cover the United States pretty thoroughly.

In addition to its fluid milk business, National Dairy, in 1937, handled more than 6 percent of the creamery butter, 17 percent of the ice cream, and 45 percent of the cheese (excluding cottage, pot, and bakers' cheese) manufactured for sale in the American market.[83] The company's rapid expansion was achieved by exchanging its own stock for part or all of the voting stock or, more frequently, for the assets of other concerns. Three hundred and sixty-two subsidiaries were thus acquired between 1923 and 1937, the most important of these being the Kraft-Phenix Cheese Corporation, the Breyer Ice Cream Co., the General Ice Cream Corporation, and the Sheffield Farms Co. The owners or managers of these concerns, in many cases, undertook to refrain from re-entering the business within prescribed areas for a certain length of time; several of them were hired by National Dairy at salaries ranging from $5,000 to $50,000 a year.[84] The Borden Co., originally a manufacturer of condensed milk, embarked upon a similar program of expansion in 1928 and had exchanged its own stock for the stock or, more often, for the assets of 207 separate enterprises by 1932. It is now engaged in virtually every branch of the industry. National Dairy's sales stood at $334,355,000 and Borden's at $212,039,000 in 1938.[85] Subsidiaries of one or both of these concerns distribute milk in 13 of the 14 largest cities in the United States. National Dairy is represented in Philadelphia, Cleveland, St. Louis, Baltimore, Boston, Pittsburgh, Buffalo, and Washington; Borden in Chicago and San Francisco; both companies in New York, Detroit, and Milwaukee. One or both of them account for half or more than half of the sales in 5 cities and for between 18 and 43 percent of those in 7 cities among the 12 for which information is available.[86] In the areas where both firms operate, they do not appear to compete either in the prices paid

[80] John D. Black, The Dairy Industry and the A. A. A. (Washington, 1935), p. 54.
[81] Hearings before the Temporary National Economic Committee, Part 7, p. 3129.
[82] Ibid., p. 3032.
[83] Ibid., p. 3147.
[84] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 238.
[85] Work Projects Administration, Securities and Exchange Commission, op. cit., vol. 2, pp. 193–194.
[86] Cf. supra, p. 121.

to farmers or in those charged to consumers. In sections where only one of them operates, its relations with the other large distributors have usually been cordial and competition in price has not occurred.[87]

In the New York City market, Borden stands first, with 5 of its 26 New York subsidiaries engaged in the distribution of milk. As a Borden executive wrote in 1934:[88]

> We all know the advantages from our standpoint and from the standpoint of the public of a combination of milk companies in one city. These reasons, however, are unapprehensible to the general public. * * * Here in New York we keep the identities of Borden's and Willow Brook absolutely apart and the same thing applies in ice cream to Borden's, Horton's, and Reid's.

National Dairy stands second, with a number of subsidiaries, including Sheffield Farms and Muller Dairies, engaged in the distribution of milk (and several, including Breyer's, the Hydrox Ice Cream Co., and the Consolidated Dairy Products Co., engaged in the manufacture of ice cream). The Dairymen's League Cooperative Association, whose members supply about half of New York's milk, is the third largest distributor. Its policies, according to Whitney, are "often dictated by its interests as a dealer rather than by its interests as a farm cooperative."[89] In New York, in 1936, there were more than 300 wholesalers of unadvertised brands of milk and four wholesalers of advertised brands, including Borden, National Dairy, and the Dairymen's League, the former two accounting together for about half of the wholesale trade. There were 25 retailers engaged in door-to-door distribution, six of whom handled nine-tenths of this business, Borden and National Dairy together accounting for more than three-fourths of the total.[90] In the wholesale market, competition was intense; price-cutting, rebates, discounts, bonuses, free goods, and easy credit characterized the trade. But, according to the attorney general of the State, the vendors of the four advertised brands, although occasionally offering rebates and discounts to obtain large accounts, charged the same prices, changed them infrequently, and made such changes at the same times. In the retail market, Borden and Sheffield granted no rebates or discounts, charged identical prices, and made changes simultaneously, the four other large distributors invariably following their lead. Here, said the attorney general, "competition, for all intents and purposes, is practically nonexistent."[91] On three occasions, between 1922 and 1936, the retail price of milk in New York City remained unchanged for 18 months or more at a time.[92]

In Chicago, in recent years, harsh and violent tactics have been employed to protect established prices and to eliminate distributors whose methods have threatened the position of dominant interests in the trade. Ranged on one side of this conflict have been the major distributors, led by the Bowman Dairy Co. and the Borden-Wieland division of the Borden Co., who handle, respectively, 28 and 21 percent of Chicago's milk; the Pure Milk Association, the largest milk producers' cooperative in the country, whose members sell three-quarters

[87] Hearings before the Temporary National Economic Committee, Part 7, p. 3203.
[88] Federal Trade Commission, Report on the Sale and Distribution of Milk and Milk Products, Chicago Sales Area, pp. 26–27.
[89] Whitney, op. cit., p. 39.
[90] Bennett, op. cit., p. 10. The president of the Borden Co. contended that a proper allowance for sales made by small peddlers would reduce this fraction. Cf. Hearings before the Temporary National Economic Committee, Part 7, p. 3015.
[91] Ibid., p. 16.
[92] E. W. Gaumnitz and O. M. Reed, Some Problems Involved in Establishing Milk Prices. A. A. A. Marketing Information Series DM–2 (1937), p. 94.

of their output to seven major companies; and Local 753 of the International Brotherhood of Teamsters, the milk wagon drivers' union. On the other side have been a number of independent distributors, along with the farmers who have sold to them and the drivers who have delivered their milk. In the depth of the depression of the thirties, the retail price of milk in Chicago had remained at 14 cents a quart from July 1923 to December 1930, and at 13 cents throughout 1931; the dealer's margin had fluctuated between 8 and 9 cents from May 1923 to December 1931.[93] The apparent determination of the large distributors to maintain prices in the face of declining sales invited independents to swell their volume by developing cheaper methods of distribution and reducing their charges. Small dealers sold increasing quantities of milk through peddlers and through stores. Drivers who had lost their jobs with the major companies bought milk from these dealers and built up their own delivery routes. The major distributors, the cooperative, and the union sought to halt these inroads in many ways. According to an indictment returned under the Sherman Act, the Milk Dealers' Bottle Exchange, which is controlled by Bowman and Borden-Wieland, who own 73 percent of its voting stock, delayed deliveries to price cutters, failed to return bottles to them, and refused to sell its stock to them, thus depriving them of the discounts to which stockholders were entitled.[94] One independent dealer sued the exchange in 1931 after the bottoms of 3,000 of his bottles were discovered in a carload of crushed glass. The case had not yet been decided in 1936.[95] It was the opinion of the Federal Trade Commission that [96]—

> The Milk Dealers' Bottling [Bottle] Exchange was apparently organized and operated for the benefit of large distributors and of such small distributors as cooperated with them in maintaining uniform practices to stabilize prices.

The Pure Milk Association likewise sought to drive cut-rate distributors from the field.[97] It was charged in the indictment that the cooperative subsidized a bogus independent and that it refused to sell to dealers who reduced prices or took customers from the major companies. The union also, says the Federal Trade Commission, "was apparently operated for the benefit of large distributors." [98] It refused to admit drivers for price-cutting dealers to membership. It attempted, according to the indictment, to prevent new companies from entering the business without first buying out an existing firm, to eradicate the distribution of milk by peddlers, and to eliminate its sale through stores. To these ends, said the indictment, it called strikes, picketed, imposed secondary boycotts, destroyed property, kidnaped various persons, and inflicted beatings. In a suit brought against the union by the Meadowmoor Dairies, a nonunion, price-cutting distributor, evidence was introduced to prove that: [99]

> The members, in their efforts to either unionize the drivers or force Meadowmoor Dairies, Inc., out of business, resorted to force, bomb throwing, window breaking, and slugging drivers delivering Meadowmoor Dairies' milk.

[93] Federal Trade Commission, op. cit., pp. 54–57.
[94] *U. S.* v. *Borden Company et al.*, District Court of the United States, Northern District of Illinois, Eastern Division, Indictment, November 1, 1938. This indictment was dismissed on September 16, 1940, when the major defendants accepted a consent decree.
[95] Federal Trade Commission, op. cit., p. 15.
[96] Hearings before the Temporary National Economic Committee, Part 7, pp. 3203–3204.
[97] Cf. Fortune, November 1939, p. 126.
[98] Hearings before the Temporary National Economic Committee, Part 7, p. 3204.
[99] Federal Trade Commission, op. cit., p. 18.

The indictment in the antitrust suit also charged that the Chicago Board of Health revoked permits granted to producers to ship milk into the Chicago market "on minor and feigned charges," closed the plants of independent distributors, refused to grant permits to new concerns, and, without proper authority, required other independents to construct new buildings and install new equipment. The enactment, in 1935, of the Mayor Kelly milk ordinance, requiring that milk be sold in bottled form, may not have been unrelated to the fact that paper containers facilitate store sales. All of these activities, private and public, should have the effect of driving competition from the field.

Space does not permit the stories of other urban markets to be told. The experiences of New York and Chicago are not unique. There have been harmonious relations among large distributors in Philadelphia, there have been restrictive ordinances in Boston, and there have been bombings in Detroit. In more than 30 cities, the sale of over-the-counter milk at prices lower than those charged for door-step milk has been prohibited by law.[1] In Detroit, Washington, Los Angeles, and elsewhere, low-price, volume-minded dealers, selling through stores, have taken business from the major distributors. In a number of markets, the share of the sales made by National Dairy and Borden has declined in recent years. If the pricing policies which these concerns have followed in New York and Chicago are typical—and there is evidence that they are—it may be concluded that they have experienced the not uncommon fate of the monopolist who is unable to control admission to his field.

Profits in the distribution of milk have been high. From 1929 to 1934, 10 large processors and distributors realized an average annual return of 9.60 percent on their total investment in the business and 10.25 percent on their stockholders' investment, as revised to exclude appreciation.[2] In 1930, 3 companies in Cincinnati, 2 in Boston, and 1 in St. Louis made more than 20 percent, while one unidentified dealer in Baltimore made 86 percent on his investment after the elimination of appreciation and good will. Among 11 companies in these cities in 1933, only 1 suffered a loss; 1 in Boston made 18 percent; 2 in Baltimore made 23 and 25 percent. Six of the 11 made more than 13 percent in 1935.[3] Nine distributors in Connecticut averaged 14.14 percent on their investment in the milk business from 1930 to 1933. One dealer in Philadelphia made more than 22 percent in 1930, 1931, and 1932. Another made between 21 and 28 percent in every year from 1930 through 1935.[4] When National Dairy bought the Supplee-Wills-Jones Milk Co. of Philadelphia in 1925 for securities then worth about $16,000,000, Supplee's total assets were valued on its books at $9,139,000. From 1929 to 1934, National Dairy collected more than $12,067,000 in dividends from Supplee, an amount equivalent to 75 percent of its investment or 130 percent of Supplee's assets at the time of purchase. (When it bought the Breyer Ice Cream Co. of Philadelphia in 1925 it

[1] Fortune, op. cit., p. 131.
[2] Federal Trade Commission, Agricultural Income Inquiry, Part I, p. 853.
[3] Idem., Report on the Sale and Distribution of Milk and Milk Products, Boston, Baltimore, Cincinnati, and St. Louis, p. 166.
[4] Idem., Summary Report on the Sale and Distribution of Milk and Dairy Products, pp. 30–31.

paid $21,843,000 in securities for assets valued at $7,178,000. From 1929 to 1934, it collected $15,356,000 in dividends from Breyer, an amount equivalent to 70 percent of its investment and more than 200 percent of Breyer's assets at the time of purchase.[5]) National Dairy and Borden made money in every year of the depression. Borden's return ranged from a high of 14.2 percent on net worth in 1929, to a low of 3.4 percent in 1934; it stood at 7.9 percent in 1936, 6.3 percent in 1937, 6.6 percent in 1938, and 8.2 percent in 1939. National Dairy averaged about 20 percent from 1928 to 1931, made 6.4 percent in 1934, its poorest year, and obtained a return of 12.7 percent in 1936, 9.6 percent in 1937, 10.2 percent in 1938, and 11.6 percent in 1939.[6]

[5] Idem., Report on the Sale and Distribution of Milk and Milk Products, Connecticut and Philadelphia Milksheds, pp. 41–42; Hearings before the Temporary National Economic Committee, Part 7, pp. 2807–2808.

[6] Moody's Industrials, 1940.

CHAPTER V

MONOPOLIZED MARKETS: THOSE IN WHICH SEVERAL FIRMS PURSUE A COMMON POLICY

Establishment of control over an industry is facilitated by the paucity of firms engaging in it and by the dominance of one or a few. But such control has also been achieved in fields where firms are numerous and none is dominant. Price and production have been governed, in both situations, at one time or another, by cartels, pools, trade associations, industrial codes, rackets, and other restraints, legal and illegal.

CARTELS

A cartel is an association of independent enterprises in the same or similar branches of industry, formed for the purpose of increasing the profits of its members by subjecting their competitive activities to some form of common control.[1] Membership in such an association is usually voluntary, although in some cases it has been required by law. The association may be limited in form to a contractual agreement or it may involve the establishment of administrative agencies. It may be limited in duration to a few months or it may persist for many years. It may or may not achieve a position of substantial monopoly power. The members of such an association remain under separate ownership, retaining their freedom of action with respect to matters which are not included, and surrendering it only with respect to matters which are included, within the scope of their agreement. It is the fact that this agreement invariably requires the substitution of common policies for independent policies in the determination of price and production that is the distinguishing characteristic of the cartel.

Cartel types, differentiated according to the methods which they employ, fall into four major categories. In the first are those associations that attempt to control the conditions surrounding a sale: standardization cartels, engaged in the simplification and standardization of products; term-fixing cartels, devoted to the regulation of such matters as conditions of delivery, time of payment, discounts, options, free deals, return privileges, quality guaranties and guaranties against price declines. In the second category are those associations that undertake to fix prices: trade-mark cartels that unite the producers of branded goods in boycotts directed against distributors who undercut the stated resale price; calculation cartels that promote the adoption of common methods of cost accounting, common estimates of cost, and common margins of profit; minimum-price and uniform-

[1] See the definitions by Josef Grunzel in Roy E. Curtis, Trusts and Trust Control, p. 401; by Robert Liefmann in Encyclopaedia of the Social Sciences, vol. 3, p. 234; by Herbert von Beckerath in his Modern Industrial Organization, p. 211; and by Rudolf Callman in Hearings before the Temporary National Economic Committee, pt. 25, pp. 13347, 13348.

price cartels that circulate lists of prices, hold meetings for the discussion of prices, set up committees to issue detailed schedules of prices, and police their members to enforce adherence to such prices. In the third category are those associations that undertake to distribute among their members particular productive activities, sales territories, and customers: specialization cartels that assign to certain members the exclusive right to produce certain varieties of an industry's products; zone cartels that assign to certain members the exclusive right to sell in certain markets; customer-preservation cartels that reserve for each member the exclusive right to sell to his former customers; and order-allocation cartels that decide in the case of each submission of bids which member's bid shall be lowest. In the fourth category are those associations that undertake to award each member a fixed share of the business: plant restriction cartels that limit the number of hours during which plants may be operated, limit the number of machines that may be employed, and prohibit the installation of new machines; fixed-production-share cartels and fixed-marketing-share cartels that assign quotas to each of their members and impose upon those who produce or sell more than their quotas permit fines whose payment is guaranteed by previous deposits; production-equalization cartels and marketing-equalization cartels that assign production or marketing quotas and either operate equalization pools, making collections from those who exceed their quotas and payments to those who fail to attain them, or readjust quotas in succeeding periods, reducing the shares of those who exceed them and increasing the shares of those who keep within them; profit-sharing cartels that operate profit pools, collecting part or all of their members' profits and redistributing them upon some predetermined basis; and cartels called syndicates that employ common agencies, either to negotiate sales for their members and allocate orders among them, or to distribute part or all of their output, fixing terms and prices, assigning quotas, and dividing profits.

In the widest definition of the term, cartels are taken to include associations that fall within all four of these categories;[2] in a narrower definition they are taken to include only those that fall within the last three;[3] in the strictest definition they are taken to include only those that fall within the last two: associations that distribute production or sales among their members by marking off exclusive areas of activity or setting up a system of quotas.[4] The methods employed by a single cartel may place it within more than one of these categories. Cartels of all types attempt to regulate the terms of sale; term-fixing cartels are merely those that confine themselves to this activity. But few cartels stop here; the tendency has been to move on from those forms of control that are mild and simple to those that are stringent and complex. In its highest development, in the syndicate, the cartel combines the functions characteristic of many cartel types.

In a few industries, in a few countries, cartelization has been required by law. Elsewhere the enforcement of cartel arrangements depends upon persuasion backed by various forms of economic pressure. Cartels are in a position to discipline their members by revoking

[2] See the classifications by Herbert von Beckerath, op. cit., pp. 213–218, and Bruno Burn, Codes, Cartels, National Planning (New York, 1934), ch. 9, 10.
[3] See the classification by Robert Liefmann in op. cit., vol. 3, pp. 235–236.
[4] See the classification by Karl Pribram, Cartel Problems (Washington, 1935), ch. 2.

licenses granted under patents which they hold in a common pool, by imposing fines against money which they hold on deposit, and by withholding payments from equalization pools, profit pools, sales receipts and other funds which they control. They can compel outsiders to become members or may even drive them out of business by offering loyalty discounts to customers who do not deal with them, by boycotting suppliers who sell to them and customers who buy from them, and by making exclusive contracts with suppliers and with customers which cut them off from access to materials and to markets.

EUROPEAN CARTELS

Cartelization has enjoyed its longest history and has reached its greatest development in Germany. Dating from the seventies of the last century, the movement has advanced through successive stages with the approval of successive governments, until practically every form of business activity that lends itself to cartelization, from the extractive industries through heavy and light manufactures, transportation and construction, to the wholesale and retail trades, is now organized into one or more cartels. If France, during the 50 years from 1876 to 1926, the organization of numerous comptoirs, which functioned variously as joint purchasing offices, common export agencies, price-fixing cartels, zone cartels, quota cartels, and syndicates, was facilitated by the lenient interpretation of the provision of the Penal Code which forbade concerted action for the purpose of influencing prices. In 1926 this movement was further encouraged by an amendment to the code which expressly legalized combinations intended to assure their members no more than "normal" profits. In Belgium, likewise, cartelization has proceeded without public interference since the end of the nineteenth century. Elsewhere on the continent the movement did not assume extensive proportions until the decades that followed the First World War. In Italy, as in Germany, during the thirties, cartelization served as an instrument in the economic policy of the totalitarian state.[5]

In Great Britain, the policy of freedom of trade long impeded the progress of cartelization by compelling British businessmen to meet the competition of foreigners. The abandonment of that policy, with the adoption of the Import Duties Act of 1932, provoked the most rapid transition to a predominantly cartelized economy that the world has ever seen. Ben W. Lewis, writing in 1937, was able to describe the "typical British industrialist" in the following words:

> Today, as a member in good standing of a "rationalized" industry, he is allotted a specific percentage of the total business which his industry has decided to handle during the year (and he will pay into a "pool" if he exceeds his quota and will be compensated if he is "short"); he will consult the industry schedule before pricing his goods and will not deviate therefrom without permission; he will submit his sales contracts to the officials of his industrial association for advance approval and will throw open his books for industry inspection; he will pay a levy to be used by the industry to purchase and destroy "redundant" capacity; and he will deposit with the officers of his association a substantial amount to be forfeited if he is found guilty of noncompliance.[6]

[5] Curtis, op. cit., ch. 28; Pribram, op. cit., ch. 6 and appendix.

[6] Ben W. Lewis, Price and Production Control in British Industry, Public Policy Pamphlet No. 25, University of Chicago Press, pp. 1–2.

At that time, complete cartels, fixing prices, limiting output, assigning quotas, operating equalization pools, and imposing fines against penalty deposits, controlled the cement, coal, and iron and steel industries; price and quota associations also governed many branches of the electrical manufacturing, metal products, paint and pottery industries; schemes involving the forced retirement of productive equipment were in operation in the flour milling, ship-building, shipping, and textile industries; and various forms of association price fixing were also in evidence in numerous branches of the chemical, glass, and paper industries. This kind of activity, wrote Dr. Lewis, "is characteristic of all British industry. Wherever the nature of the product or the conditions of production and marketing will permit, price-fixing schemes are in operation or contemplation, and in a large number of cases they are accompanied by devices for controlling and allocating production." [7]

INTERNATIONAL CARTELS

An international cartel may be an association of independent enterprises, located in two or more countries. It may be a super-cartel, composed of a number of national cartels. It may include in its membership publicly owned or operated enterprises or even governments themselves. The purpose of such an association is the same as that of a national cartel: to increase the profits of the participants by checking competition, in this case, however, in markets located beyond national boundaries. Since an international cartel agreement transcends national sovereignty, its provisions cannot be enforced by law. Each such agreement is a treaty among independent powers and each such cartel, in effect, a league of nations.

Most of the cartel types found within national boundaries have also made their appearance in the international field. Price-fixing cartels have controlled the rates charged for international services and pegged the prices of goods sold in world markets. Territorial cartels have distributed exclusive sales areas among their participants. Quota cartels have curtailed production and exports and allocated output and export shares. Selling syndicates have handled foreign orders, fixed prices, and apportioned sales. Patent cartels have operated international patent pools, including in their licenses provisions which have enforced a parcellation of the markets of the world.

The price-fixing cartel is less frequently encountered in the international than in the national field, since it is more difficult to establish and enforce on an international scale. The quota cartel, undertaking as it does either to curtail world output and to assign quotas to producers located in every corner of the globe or, leaving domestic production and distribution undisturbed, to curtail exports and to assign quotas to each exporting group, or finally, to allocate to each group a specific share in each market, is even more difficult than the price-fixing association to organize and administer. The territorial cartel, presenting a simpler problem of organization and administration, is the type most frequently employed. The usual arrangement reserves for members within each nation their own national market

[7] Ibid., p. 16.

and either assigns further exclusive territories, establishes sales quotas, or permits free competition in the remaining markets of the world.

No one knows how many international cartels are in existence at any time. They are said to have numbered 114 in 1914. A list published in 1929 included 46; one published in 1940 includes 56.[8] International agreements are known to have affected trade, at sometime during the past two decades, in such basic materials as aluminum, cement, coal and coke, copper, iron and steel, lead, rubber, sugar, tin, wheat, and zinc; in other metals and minerals, including antimony, bismuth, ferromanganese, ferrosilicon, magnesite, magnesium, mercury, titanium, and uranium; in many chemicals, including calcium carbide, cellulose, chlorine, citric acid, cobalt, dyestuffs, fertilizer, Glauber's salt, iodine, lead oxide, nitrogen, paraffin, phosphates, potash, quinine, saccharine, sulfur, sulfuric acid, and white lead; in bottles, ceramics, enameled ware, plate glass, and porcelain; in sulfite pulp, newsprint, packing, and other paper; in flax, rayon, and wool textiles, felt clothing, and linoleum; in buttons, leather, glue, oils, fats, and greases; in metal products, including ball bearings, cables, plates, rails, rivets, screws, sheets, and wires; in a variety of other fabricated products, including dental supplies, electric lamps, gas mantles, household appliances, matches, machinery, phonographs and records, railway cars, and tobacco; and in such services as transoceanic shipping, cable and radio communication, marine insurance, and the distribution of motion picture films.[9]

EXPORT ASSOCIATIONS

European producers have long been permitted and even encouraged to combine for joint action in the export trade. American producers before 1918 were prohibited by the provisions of the Sherman Act from doing so. It was consequently argued that this situation prevented the expansion of American exports by compelling American firms to act independently when competing with and when selling to foreign firms which were united in cartels. In response to this contention, Congress in 1918 passed the Webb-Pomerene Export Trade Act, exempting from the provisions of the anti-trust laws any "association entered into for the sole purpose of engaging in export trade and actually engaged solely in such export trade * * *," thus legalizing the formation of export cartels in the United States. The act expressly forbade collective action within the domestic market, approving it only for foreign sales, and only "provided such association, agreement, or act is not in restraint of trade within the United States, and is not in restraint of the export trade of any domestic competitor of such association. And provided further, that such association does not, either in the United States or elsewhere, enter into any agreement, understanding, or conspiracy or do any act which artificially or intentionally enhances or depresses prices within the United States of commodities of the class exported by such association, or which sub-

[8] Cf. Curtis, op. cit., pp. 427–428; Verbatim Record of the Proceedings of the Temporary National Economic Committee, vol. 11, pp. 13368–13369.

[9] Ibid; Elliott and others, op. cit., passim; Robert F. Martin, International Raw Commodity Price Control (New York, 1937), passim; Plummer, op. cit., passim; Benjamin B. Wallace and Lynn R. Edminster, International Control of Raw Materials (Washington, 1930), passim.

stantially lessens competition within the United States or otherwise restrains trade therein." Associations were directed to file their charters, bylaws, agreements, and other data with the Federal Trade Commission and to make periodic reports to that body. The Commission was not authorized to issue orders to cease and desist from violations of the law, but it was permitted to investigate association activities, to recommend readjustments that would keep such activities within the scope of the exemption granted by the law, and where deemed necessary to refer its findings and recommendations to the Attorney General for action.

The number of export associations formed between 1918 and 1940 was 118, the number on file with the Commission at the end of each year ranging from 43 to 58 with an annual average of 50. Of the 74 associations which were liquidated before 1940, 39 had been in existence for more than 5 years and 13 for more than 10 years. Of the 44 associations surviving in 1940, 30 were more than 10 years of age and 14 were more than 20 years of age. Webb-Pomerene associations have engaged in the exportation of abrasives, alcohol, alkali, buttons, carbon black, cement, clothespins, clothing, coal and coke, copper, cotton linters, doors, electrical apparatus, fertilizer, flour and other grain products, foundry equipment, fruits (fresh, dried, and canned), furniture and office equipment, insecticides, iron and steel, locomotives, several varieties of lumber, machinery and implements, meat products, metal lath, canned milk, naval stores, paint and varnish, paper products, peas, pencils, petroleum products, phosphate rock, pipe fittings and valves, plywood, potash, plate glass, provisions, rice, rubber tires and other rubber products, canned salmon, sardines, screws, shooks, signal apparatus, soda ash, soda pulp, springs, sugar, sulfur, tanning materials, textiles, tools and tool handles, canned vegetables, and zinc. The value of the goods exported by such associations rose from $75,000,000 in 1919 to $724,000,000 in 1929, fell to $133,000,000 in 1933, and had risen to $198,000,000 by 1937. Associations handled 3 or 4 percent of American exports in the years from 1923 to 1926, 7 percent in 1927, 9 percent in 1928, 14 percent in 1929, 17 percent in 1930, 13 percent in 1931, 9 percent again in 1932 and 1933, 7 percent again in 1934, and 6 percent in 1935, 1936, and 1937.[10]

The direction in which export associations have developed has been influenced by the liberal interpretation which the Federal Trade Commission has placed upon the law. Most of the earlier associations were operating agencies, making sales abroad, allocating orders at home, assembling and shipping goods, making collections, and remitting payments to their members. It was generally assumed that mere price and quota agreements did not fall within the scope of the exemption granted by the act. In 1924, however, the Commission, in response to an inquiry from a group of silver producers, declared that: "The act does not require that the association shall perform all the operations of selling its members' product to a foreign buyer * * * an association may, without necessarily involving conflict with the act, be engaged in allotting export orders among its members and in fixing prices at which the individual members shall sell in export trade."[10a]

[10] Federal Trade Commission, Practice and Procedure under the Export Trade Act, Foreign Trade Series No. 2 (1935), Annual Reports, 1919–39; Verbatim Record of the Proceedings of the Temporary National Economic Committee, vol. 11, pp. 323–324.

[10a] Press release, August 6, 1924.

A majority of the associations formed subsequent to the publication of this statement have left to their members the work of making sales, shipping goods, and collecting payments, themselves undertaking to fix prices or to assign quotas or both. In the course of the same opinion, the Commission asserted that: "there seems to be no reason why a Webb-Pomerene association composed of nationals or residents of the United States and actually exporting from the United States, might not adopt a trade arrangement with non-nationals reaching the same market providing this market was not the domestic market of the United States and the action of this organization did not reflect unlawfully upon domestic conditions." Many American export associations subsequently accepted this open invitation to participate in international cartels.[11]

The reasoning behind this legislation has not escaped criticism. Even though foreign firms are permitted to unite in cartels, it does not necessarily follow that American exports will suffer unless their American competitors are also permitted to do so. Cartels are likely to curtail sales, share markets, and raise prices. The cartelization of foreign firms should therefore make it easier, rather than more difficult, for their American rivals to undersell them. Cartels, to be sure, may sometimes follow the policy of charging high prices in tariff-encircled home markets and dumping at low prices in freer markets. In such a case, a competing American association, adopting a similar pattern, might capture the latter markets by dumping at prices even lower than those charged by its foreign rivals. But it would also attempt to recoup its losses by combining to raise prices within the United States, a project which the act specifically condemns. American associations, in either case, can participate in international cartels, organized for the purpose of raising prices in world markets. But this does not appear to be the most promising method of promoting foreign sales. Expansion of exports is to be encouraged by other means, notably by the reduction of tariffs and other barriers to trade.

Doubt has been expressed, too, that firms can assign quotas and fix prices in foreign markets without influencing prices in the domestic market; that they can combine for sales abroad without abandoning competition at home. Collective decisions governing the volume of exports must inevitably affect the volume of domestic sales, or the volume and cost of production, and thus the prices which domestic consumers are required to pay. Territorial cartels that grant each group of producers exclusive occupancy of its national market, thereby placing a complete embargo on foreign goods, afford domestic monopoly greater protection than does a tariff, which allows some goods to pass. Export associations might conceivably engage in activities affecting local prices without committing those overt acts that would bring them into open conflict with the law. Prices agreed upon in making foreign sales might be adopted, without formal collusion, in making sales at home. It may be doubted that the vigilance of the Federal Trade Commission can keep the left hand of industry from knowing what its right hand is doing. Competitors with common offices, adopting common policies, may not succeed completely in attaining that singleness of purpose which the law requires.

[11] Leslie T. Fournier, "The Purposes and Results of the Webb-Pomerene Law," American Economic Review, vol. 22 (1932), pp. 18–33, at pp. 28–29.

Of the operation of Webb-Pomerene associations, in general, and of their consequences, little or nothing is known. No comprehensive study of the subject has been published after an experience of more than 20 years. The Federal Trade Commission lists the names of the associations on file and gives the total value of their exports in its annual reports. Beyond this, it vouchsafed, in 1935, this reassuring note: "No case has arisen in which an association has refused to comply with recommendations of the Commission; and no violations of law have been referred by the Commission to the Attorney General." [12]

COPPER CARTELS

There is evidence of American participation, direct or indirect, in international cartels which have controlled the sale of aluminum, copper, dental supplies, electric lamps, ferromanganese, lead, leather, paraffin, potash, quinine, railroad cars, rayon, rubber thread, steel tubes, sulfur, tin plate, titanium, and zinc.[13] In some of these arrangements, American producers, united in export associations, have taken the lead. The copper cartels of the twenties are a case in point.

In 1921 the United States was producing three-fifths of the world's output of copper; American firms, operating at home and abroad, were producing nearly three-fourths of the total supply. The Copper Export Association, one of the first of the Webb-Pomerene groups, included in its membership firms which controlled nine-tenths of the American output and two-thirds of the world output. At this time, the stocks of the metal accumulated during the First World War were still so large that rapid liquidation threatened seriously to depress its price. The association accordingly organized a pool to prevent distress sales. It borrowed $40,000,000 from the public through the sale of short-term debentures, bought 200,000 tons of copper, equivalent to a third of the domestic output for the previous year, and continued buying until at one time it held as much as 69 percent of the total stock of refined copper in North and South America. The pool liquidated gradually, disposing of the last of its holdings in August 1923.[14] At the time of the negotiation of the loan it apparently was understood that American producers would curtail production during 1921.[15] The curtailment, however, took the form of a virtual shut-down. Production by association members was almost entirely suspended from the spring of 1921 to the beginning of 1922. Asked to explain this development, Cornelius F. Kelley, president of the Anaconda Copper Mining Corporation, replied: [16]

> Now as to whether or not that is a coincidence, that they all shut down together, I would say that the same circumstances that compelled Anaconda were known to every other one, and that they shut down certainly as a result of conditions that commonly affected every unit in the industry, and if there were any concert of action under the conditions that prevailed, I am sure that it would be justified as a matter of economic necessity and supported as a matter of law.

[12] Federal Trade Commission, Practice and Procedure Under the Export Trade Act, p. 3. (A study of the operation of the Export Trade Act is included in Monograph No. 6 in this series.)

[13] Cf. Elliott and others, op. cit., ch. 6, 8, 10, 12; Plummer, op. cit., pp. 21–22, 87–100, 170–171, 196; Curtis, op. cit., p. 428; Hearings before the Temporary National Economic Committee, pt. 25, pp. 13368, 13369; 13304–06, and supra, pp. 71, 105, 109, 138–139, 200, 204–205.

[14] Hearings before the Temporary National Economic Committee, pt. 25, pp. 13126–13129 ff.

[15] Ibid., pp. 13132–4.

[16] Ibid., p. 13139.

The price decline that had started in 1919 was arrested in 1921. Mr. Kelley testified that the price of copper "without doubt" would have fallen farther if it had not been for the establishment of the pool.[17] Since the world price and the domestic price were interdependent, the pool obviously had the effect of bolstering both.

Partly because of competition from newly established foreign operators, the Copper Export Association broke down. It was succeeded, in 1926, by a second Webb-Pomerene association, Copper Exporters, Inc. Copper Exporters was truly international in scope, comprising nearly all of the important producers and dealers in the world. By 1927, its members controlled 93.8 percent of the American output and 84.8 percent of the world output.[18] This cartel, through its New York headquarters and its Brussels office, centralized sales, allocated quotas, and fixed the price of copper throughout the world for the next 4 years.[19] It raised the price per pound in the New York market from 12.4 cents in June 1927, to 21.3 cents in March 1929. Mr. Kelley, who was president of Copper Exporters, attributed this increase largely to market factors other than the activities of the cartel, although he admitted that "unquestionably there was some relation" between these activities and the mounting price.[20] The profitability of this price is suggested by the fact that 93 percent of the American output of copper during this period was produced at a cost of less than 13 cents and 72 percent of it at a cost of less than 10 cents a pound. The cartel is said to have levied a tribute on consumers amounting to $100,000,000 in a single year. During the year from March 1928, to March 1929, the price of copper securities sold on the New York Stock Exchange rose at the rate of 20 percent each month. Profits were realized, not only in the sale of copper, but also from the sale of stock.[21] According to Nourse and Drury, "There was in 1928 and 1929 a vast amount of collaboration between management and banking interests in promoting the sale and even the speculative manipulation of the stock of the Anaconda Copper Co." [22] It was said that a difference of a cent a pound in the price of copper meant a difference of roughly $1.25 a share in the value of this stock. From May 1929, to March 1930, in the face of the great depression, the price of copper in the New York market was held constant at 17.8 cents, a figure higher than that obtaining at any time between 1921 and 1928. According to Mr. Kelley: [23]

> In the latter part of March, I became concerned over the situation. I felt that we were holding copper at a fictitious price. * * * We consulted with responsible governmental officials and were urged to hold the price. We felt that it was our duty to cooperate. We did. That was a period of fictitious price, of artificial price, if you please.

When control was abandoned, the price of copper dropped below 10 cents a pound in 1930 and below 5 cents in 1932, the price of shares suffering a similar decline.

[17] Ibid., p. 48.
[18] Ibid., p. 85.
[19] Members were not forbidden to sell below the association price, but if they wished to do so they were required to offer participation in the sale to all the other firms. Ibid., pp. 152–153.
[20] Ibid., p. 87.
[21] Elliott, op. cit., ch. 8, 9; Plummer, op. cit., First Ed., pp. 149–154.
[22] Nourse and Drury, op. cit., p. 152. Cf. Ibid., pp. 152–156.
[23] Hearings before the Temporary National Economic Committee, pt. 25, p. 13196.

Further arrangements designed to control production and price were entered into during the thirties. At a meeting held under the auspices of the Copper Institute in November 1930, domestic and foreign producers announced specific reductions in output planned for the coming year. At a second meeting, held in December 1931, producers were of the opinion that world output should be cut to 26½ percent of capacity. A third meeting was held in December 1932, but the conferees were apparently unable to reach an agreement.[24] From 1933 to 1935, during the life of the N. R. A., the American industry was governed by a code which cut output to about a quarter of capacity and assigned a specific sales quota to each producer. From 1935 to 1939, the production of copper by British interests in Rhodesia, by Belgian-owned mines in the Congo, and by American companies in Chile was controlled by an international quota cartel. Although production within the United States was not included in the original agreement, it was understood, according to newspaper accounts at the time, that the American producers who participated would not export more than 9,000 tons of domestic copper in any month. The existence of such an understanding was denied, however, by Mr. E. T. Stannard, president of the Kennecott Copper Corporation, who attributed Kennecott's failure to export any copper from the United States between June 1935 and August 1938, to the fear that large exports might lead to the imposition of tariffs abroad.[25]

The production of copper, during the period of these activities, was marked by two important trends. The proportion of the American output controlled by the three dominant companies, Anaconda, Kennecott, and Phelps Dodge, grew from 26 percent in 1920 to 77.6 percent in 1937.[26] At the same time the domestic industry was losing its hold on the world market. Production in the United States fell from 58.7 percent of the world total in 1920 to 23.5 percent in 1935 and rose only to 33.3 percent in 1937. Production by American-owned mines abroad grew from 15.2 percent of the total in 1920 to 22.0 percent in 1937, but this gain compensated only partially for the decline in the relative importance of the industry at home. Although there are undoubtedly many reasons for the development of foreign-owned copper properties during this period, it seems probable that their growth was stimulated by the fact that the American producers were holding a price umbrella over the industry for months and years at a time.

POOLS

Cartel-like arrangements in the United States have not been confined to the export trade. They have made their appearance in the domestic market in the simple agreements and pools of the latter half of the nineteenth century and in the activities of trade associations and industrial institutes in the twentieth.

The simple agreement was the typical form of restraint employed during the decade which followed the Civil War. It has been defined as an express understanding which controlled prices and the conditions of trade but did not attempt to impose restrictions upon

[24] Ibid., pp. 13212, 13479–13484.
[25] Ibid., pp. 128, 13231, 13234–6.
[26] Ibid., p. 13391.

the volume of production. In some cases it was secret; in others, open. In some cases, it was merely an oral agreement among gentlemen; in others, it was embodied in a written contract. In some cases, it rested upon little more than the observance of the spoken word; in others, it was enforced by fines and forfeits and by the application of pressure through the organization of boycotts. In general, it involved little or nothing in the way of formal organization. Such agreements obtained during this period among anthracite producers, bridge builders, gunpowder manufacturers, meat packers, railroad companies, tile manufacturers, and, in local markets, among druggists, coal, ice, lumber, and tile dealers, and truck growers. In form and purpose they corresponded to the arrangements which are known in Europe as term-fixing and price-fixing cartels.[27]

The pool is to be distinguished from the simple agreement by two facts: it controlled prices by restricting output and sharing markets and it maintained administrative machinery for the enforcement of its control. In some cases, it granted its members exclusive market territories. In others, it assigned them quotas in allowable production or sales. In still others, it paid them fixed shares of the gross or net income of the trade. Pooling arrangements of this sort are clearly analogous to the zone, quota, and profits cartels which exist abroad. Such arrangements were common in the United States during the last quarter of the century, being employed in the control of railway traffic and in the sale of bathtubs, bottles, brass, cast-iron pipe, cordage, cotton bagging, cotton thread and yarn, explosives, iron and steel, meat, nails, naval stores, sugar, tobacco, whisky, and many other goods. In a few cases, pooling was accomplished through the operation of a central selling agency, similar in character to the European syndicate. Such agencies were maintained by the producers of blue stone ware, coal, lumber, manila and fiber paper, petroleum products, salt, shade rollers, wallpaper, window glass, and wooden dishes.[28] By the end of the century all of these arrangements were prohibited by law. In 1887, the pooling of railway traffic and earnings was explicitly forbidden by the passage of the Interstate Commerce Act. In 1899, the decision of the Supreme Court in the *Addystone Pipe case* made it clear that the Sherman Act would be applied to pools in other fields. The cartelization of American industry was temporarily restrained.

TRADE ASSOCIATIONS

A trade association or industrial institute is an agency through which many or all of the sellers of a like commodity unite to promote their common interests. It exists solely to serve its members; it does not itself engage in the production or sale of goods. An association may be incorporated or unincorporated. It is usually governed by a board of directors elected by its members and financed by dues which they contribute in proportion to their output, pay rolls, capital, or sales. Its activities are administered by a salaried secretary and carried on by a paid staff. The members of such an association retain their legal independence. They are free to enter or to withdraw from

[27] Lewis H. Haney, Business Organization and Combination (New York, 1913), ch. 10.
[28] Ibid., ch. 11, 12; Jones, op. cit., ch. 2; Seager and Gulick, op. cit., ch. 7.

it at will. They cannot even be compelled to pay their dues. An association, therefore, may be strong or weak, according to the force of circumstances making for voluntary cooperation within the trade.

The trade association movement is a product of the past 30 years. The few associations that were formed during the latter half of the nineteenth century were, in the main, impotent, clandestine, or ephemeral. Trade organization, in the twentieth century, took its initial impetus from the enunciation of the rule of reason by the Supreme Court in 1911 and from the publication of a popular book on "The New Competition" by Arthur J. Eddy in 1912. both statements holding out the hope that competitors might cooperate in common activities and remain within the law. The formation of associations was further stimulated in 1917 and 1918 by the function assigned to them by the War Industries Board in the procurement of supplies, and again in 1933 and 1934 by the opportunity afforded them to adopt and administer codes of fair competition under the National Industrial Recovery Act. In 1940 there were more than 8,000 trade associations—local, regional, and national—in the United States, some 2,000 of them national in scope.

ASSOCIATION ACTIVITIES

The functions performed by trade associations for the benefit of their members are numerous and diverse. Many of them do not appear to be inconsistent with the preservation of competition; many others may involve the imposition of restraints. Typical association activities include cooperative industrial research, market surveys, the development of new uses for products, the provision of traffic information, the operation of employment bureaus, collective bargaining with organized labor, mutual insurance, commercial arbitration, the publication of trade journals, joint advertising and publicity, and joint representation before legislative and administrative agencies, all of them undertakings that may serve a trade without disservice to its customers. But they also include the establishment of common cost accounting procedures, the collection and dissemination of statistics, the operation of price reporting plans, the standardization of products, terms of contracts, and price lists and differentials, the provision of credit information, the interchange of patent rights, the administration of basing point systems, the joint purchasing of supplies, and the promulgation of codes of business ethics, each of them practices which may operate to restrain competition in quality, service, price, or terms of sale. As Adam Smith remarked in 1776, "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public or in some contrivance to raise prices." [29]

COST ACCOUNTING

Conspicuous among association activities is the promotion of cost accounting, or, in association parlance, cost education. As described, by Burns,[30] this educational work is carried on through six grades. In the first, the association provides its members with standard forms

[29] Wealth of Nations, Book I, ch. 10, pt. II.
[30] Arthur F. Burns, The Decline of Competition (New York, 1936), pp. 47–55.

for use in cost determination. This is expected to eliminate any price cutting that might arise from ignorance of costs. It may also carry the suggestion that no seller's price should fall below his costs as set forth on the standard forms. In the second grade, the association prescribes detailed procedures for computing costs, showing its members the proper way to figure charges for materials, the proper way to compute depreciation, and the proper way to distribute overhead. This is designed to reduce the price disparities that might result from the employment of diverse methods of calculation. In the third grade, the association suggests a uniform mark-up. Each of its members is encouraged to add the same percent of profit to his costs to get his price. But one member may undersell another if he has lower costs. In the fourth grade, however, the association publishes some sort of an average of the costs of all the firms in the trade. Where this figure is adopted by members in place of their individual actual costs, it affords a basis for the establishment of a common price. But prices may still vary if members do not add a uniform mark-up to the uniform cost. In the fifth grade, therefore, says Burns, "Some associations have taken the final step and included an allowance for profit in the so-called average costs. Average costs then become merely a suggested selling price, uniform for all, and provide a means by which to define and detect price cutting and a stimulus to attempts to eliminate it." [31] In the sixth and final grade, the association undertakes to enforce adherence to the average "costs." Through editorials published in trade journals, through resolutions passed at association meetings, and through conferences and correspondence between association officials and members of the trade, it endeavors to persuade all sellers that they should adopt the common estimate of "cost" and therefore charge a common price.

Not every association has carried cost education through all six grades. But every student of the activity has recognized that it is subject to abuse. Whitney, for instance, lists three methods of controlling price: direct, through price fixing; indirect, through persuasion; and technical, through cost accounting.[32] The Federal Trade Commission quotes a statement made by the secretary of the National Association of Cost Accountants at a meeting of the American Trade Association executives: "I cannot see a great deal in uniform costing unless it does lead to an exchange of information and a comparison of costs with a view to securing a certain amount of cost standardization, which is something entirely different from uniformity of method * * * It is perfectly true that the exchange of information is likely to have an influence on price levels in the industry, but why shouldn't it?" [33] According to the Commission, "These words sum up very well the philosophy of cost accounting and cost comparison as a trade association activity." [34] The study of average cost data by the members of an industry "will promote uniformity of practice in computing costs and generally influence them in the direction of uniformity of prices." [35] It is, moreover, "the natural tendency of

[31] Ibid., p. 52.
[32] Simon N. Whitney, Trade Associations and Industrial Control (New York, 1934), p. 42.
[33] Federal Trade Commission, Open-Price Trade Association, 70th Cong., 2d sess., S. Doc. 266, p. 181.
[34] Loc. cit.
[35] Ibid., p. 175.

trade associations to include everything possible in costs and thus to swell the amount."[36] The Commission therefore concludes: "Among the many legitimate kinds of trade association activities which may easily and imperceptibly pass over from the stage of useful service to that of abuse and even illegality, there are probably few more prone to this sort of transition than cost-accounting work."[37] Kirsh enumerates several practices found to be illegal: the falsification of published data, the identification of reporting firms, the recommendation of specific figures, the concealment of accounting activities, the detailed supervision of cost systems, and the enforcement of common costing methods by the imposition of penalties.[38] "The value of uniform cost accounting and of cost education cannot be overestimated," writes Foth, "but unfortunately many associations have used these cost activities as a means of unlawfully controlling prices."[39]

STATISTICAL ACTIVITIES

The statistical activities of trade associations may affect prices by influencing the production policies of member firms. Association statistics cover such matters as the volume of production, inventories, unfilled orders, idle capacity, shipments, and sales. Reports on the volume of production may show output as a ratio of capacity and compare it with some ratio designated as "normal." They may compare output with orders or with shipments. They may compare it with the quantity produced during some "normal" period in the past. Such comparisons are likely to carry the suggestion that production is getting out of hand. The consequent curtailment amounts, says Burns, "to adapting production to demand and avoiding the accumulation of unsold stocks. It is implied that when demand declines there is only one proper response, viz, an equal reduction of output."[40] In some cases, association reports have compared changes in the volume of one member's output with changes in the total output of the trade. "These calculations are aimed at deterring the firm whose sales have been falling from attempting to increase its sales by increased sales effort or price cutting at a time when the sales of all firms are falling. Thus a 'demoralized market' is avoided. Such an interpretation of the statistics must tend to fix the distribution of business between firms. Insofar as price cutting is deterred when business falls off, there is also a tendency to maintain unchanged prices."[41] Reports on the volume of inventories likewise "are likely to be used as a guide to production policy, production being diminished when stocks are accumulating and increased when stocks are falling * * *. The existing price of the product tends to be maintained and production adjusted to changes in demand at the unchanging price."[42] So, too, with reports on unfilled orders. If they reveal an increase in the volume of such orders, output may rise; but if they reveal a decline, it is probable that output will be curtailed and the established price maintained. Reports on the volume of idle capacity may have a

[36] Ibid., p. 176.
[37] Loc. cit.
[38] Benjamin S. Kirsh, Trade Associations in Law and Business (New York, 1938), ch. 3.
[39] Joseph H. Foth, Trade Associations (New York, 1930), p. 274.
[40] Burns, op. cit., p. 57.
[41] Ibid., p. 58.
[42] Ibid., p. 59.

similar effect. They serve to warn the members of the trade that a price cut may provoke a price war. They may also deter existing firms from adding to their equipment and new firms from entering the field, even though it might be possible to put the added capacity to work at a lower price. Whitney's three methods of price control are paralleled by three methods of controlling production: direct, through quota systems; indirect, through persuasion; and technical, through the collection and dissemination of statistics.[43]

PRICE REPORTING SYSTEMS

Trade association statistics cover prices as well as production. Through their price reporting systems, association members make available to one another, and sometimes to outsiders, information concerning the prices at which products have been, are being, or are to be sold. It is argued that such systems, by increasing the amount of knowledge available to traders, must lessen the imperfection of markets and make for more effective competition. Whether they do so, in fact, depends upon the characteristics of the industries which use them and upon the characteristics of the plans themselves.

For a price reporting system to increase the effectiveness of competition in a trade, many conditions must be fulfilled. As for the characteristics of the trade: Sellers must be numerous, each of them relatively small, and no one of them dominant. Entrance to the field must not be obstructed by legal barriers or by large capital requirements. Otherwise a reporting system may implement a price agreement, or promote price leadership, and facilitate the application of pressure against price cutters. Moreover, the market for the trade must not be a declining one. Supply, demand, and price must not be subject to violent fluctuation. The product must consist of small units turned out in large volume and sales must be frequent. Otherwise sellers will have a stronger incentive than usual to restrict competition and, even though numerous, they may agree upon a common course of action. Under such circumstances, a price reporting plan may serve as a convenient instrument for the administration of a scheme of price control. And finally, the demand for the product of the trade must be elastic, falling as prices rise and rising as prices fall. Otherwise it is not to be expected that the provision of fuller information would force a seller to reduce his price.

So, too, with the characteristics of the reporting plan itself: The price reports must not be falsified. If members do not return their lowest prices, if the association excludes such prices from the figures it reports, competitive reductions to meet the lowest figure actually charged will not occur. The reports must be available to all sellers on equal terms. If they are not, the sellers who fail to see them will not be informed of lower prices that they otherwise might meet. The reports must also be available to buyers. If information is withheld from them, they cannot seek out the seller who has filed the lowest price or compel another seller to meet this price to make a sale. The reports must not identify individual traders. The reporting agency must be neutral, keeping each seller's returns

[43] Whitney, op. cit., p. 42.

in confidence and transmitting the collective information to all concerned. If price cutters are openly or secretly identified, those who desire to sell at higher prices may employ persuasion or even sterner methods to bring them into line. The prices reported must be limited to past transactions. If current or future prices are exchanged, sellers will hesitate to cut their charges to make a sale, since they will know that lower figures will instantly be met. Each seller must be free to change his price at any time. If a seller cannot cut a price until sometime after he has filed the lower figure, thus affording his rivals an opportunity to meet it instantly, the chances that he will do so are accordingly reduced. The plan must carry no recommendation as to price policy. If the publication of average "costs" suggests the figures to be filed, if uniform charges are voted at trade meetings, then the reporting system becomes a method of policing the observance of a common price. The system, finally, must make no provision for the supervision of prices charged or for the imposition of penalties on those who sell below the figures they have filed. If association officials supervise the filing and persuade sellers whose quotations are low to raise them, if penalties are imposed on those who quote figures below those recommended or sell at figures below those quoted, then the reporting plan becomes but an incident in the whole price fixing scheme. When every one of these conditions is fulfilled, a price reporting system may promote effective competition. But where any one of them is unsatisfied, price reporting is likely to implement the non-competitive arrangements within the trade.[44] It follows that competition must more often be diminished than increased through the operation of price reporting plans.

STANDARDIZATION

The standardization of products, terms of contracts, and price lists and differentials, though frequently advantageous to buyers and sellers alike, is also subject to abuse. Standardization of products contributes to convenience and lessens waste. But it may limit competition in quality, restrict the consumer's range of choice, and by eliminating the sale of cheaper grades, compel him to buy a better and a more expensive product than the one that he desires.[45] Standardization of the terms of contracts saves time, prevents misunderstanding, and affords a common basis for the comparison of prices. If limited to such matters as allowable variations in the quality of goods delivered, the time when title passes, and the method to be employed in the settlement of disputes, it does not restrain competition. But a trade may go on to establish common credit terms, create uniform customer classifications, eliminate or standardize discounts, forbid free deals, limit guarantees, restrict the return of merchandize, minimize allowances on trade-ins, fix handling charges, forbid freight absorption, discourage long-term contracts, and agree upon a common policy with respect to guarantees against price declines. In the judgment of the Federal Trade Commission, "the standardization of terms of sale, and of elements in the sales contract,

[44] Leverett S. Lyon and Victor Abramson, The Economics of Open Price Systems (Washington, 1936), ch. 2, 4, 6, 7; Federal Trade Commission, op. cit., ch. 3.

[45] National Industrial Conference Board, Trade Associations: Their Economic Significance and Legal Status, ch. 12 (New York, 1925); Federal Trade Commission, op. cit., pp. 204–218.

appears to be entirely desirable, and at least as beneficial to the buyer as to the seller, and yet it is hard to arrive cooperatively at such standardization without an agreement on some element in the price paid." [46] At best, such an agreement restricts the scope of competition and deprives buyers of options which they are entitled to enjoy. At worst, it serves to supplement other elements in a comprehensive scheme of price control, preventing indirect departures from the established price and facilitating its enforcement through the operation of a price reporting plan. So, also, the standardization of price lists and differentials involving the selection of a single variety or size of product for use as a base in quoting prices and the adoption of a system of uniform extras and discounts for use in computing the prices of other varieties and sizes, contributes to the convenience with which negotiations may be carried on. But here again, as the Trade Commission has observed, "the simplification of the process of quotation doubtless facilitates agreement on prices between sellers; and the devising of a base price list, or of standard differentials, by an association may be accompanied by elements of agreement that are contrary to the anti-trust laws." [47]

CREDIT BUREAUS

The provision, through a central bureau, of information on credit risks increases the safety with which credit may be granted. If confined to the exchange of ledger data on individual buyers in response to specific requests and accompanied by no recommendation as to policy, it helps the members of a trade without injustice to their customers. But an association may go on to limit the freedom of members to extend credit where they please, to circulate blacklists, to boycott delinquent debtors without affording them a hearing, to set up uniform terms to govern the extension of credit, and to employ the denial of credit as a means of controlling the channels of distribution or enforcing the maintenance of a resale price.[48]

PATENT POOLS

The interchange of patent rights through a system of cross-licenses lowers costs by reducing the volume of litigation and makes it possible for every member of an association to employ the inventions controlled by any one of them. But patent pooling, too, may lessen competition. By controlling the market for new inventions in the field, by drawing upon the combined resources of its members in prosecuting and defending patent suits, by requiring non-members to take out a license under a major patent as a condition of obtaining a license under a minor one, by charging exorbitant royalties, and by refusing to license outsiders, a pool may afford its members a marked advantage over their competitors. By including in its contracts provisions which restrict the quantity a licensee may produce, the area in which he may sell, and the price that he may charge, it may serve as a powerful instrument of price control.[49]

[46] Ibid., p. 292.
[47] Ibid., p. 199.
[48] National Industrial Conference Board, op. cit., ch. 10; Harry A. Toulmin, Trade Agreements and the Anti-Trust Laws (Cincinnati, 1937), pp. 93–95.
[49] Kirsh, op. cit., ch. 8; National Industrial Conference Board, op. cit., ch. 9.

OTHER ACTIVITIES

Still other association activities, not necessarily inconsistent with the maintenance of competition in a trade, may be carried to a point where they restrain the freedom of its members to compete. The operation of a basing point system need not involve the quotation of a common price. But an industry that can agree to quote its prices from common basing points is not likely to encounter serious difficulty in arriving at an understanding concerning price itself. The maintenance of a joint purchasing department is likely to increase efficiency in buying and to obtain supplies in quantity at lower costs. But such departments, according to Toulmin, "are the most dangerous of all departments of a trade association with respect to the antitrust laws."[50] Joint purchasing lessens competition among members as buyers. It may be employed as a means of forcing sellers to discriminate against their competitors. And where an association controls enough of the demand for a commodity to fix its price, it acts as a monopsonist. The promulgation of a code of business ethics is avowedly designed to raise standards of conduct among the members of a trade. Such a code customarily contains an affirmation of belief in the usefulness of the trade and the value of its product, an acknowledgement of its responsibility to the community, and a renunciation of methods of competition generally held to be unfair. These protestations, hanging in their frame upon a member's office wall, may do some good and can do little harm. But many a code is less concerned with the obligations and duties of members than with the protection of their margin of profit. "A good deal of business ethics," says the Federal Trade Commission, "is of the nature illustrated by the story of the partner in a clothing store who was, by mistake, given two $20 bills instead of one in payment for a suit and who found the ethics of the situation in a question as to whether he should tell his partner about the extra $20."[51] Thus, codes of ethics frequently contain detailed provisions concerning matters which affect the making of a price, denouncing as unethical many practices that are found to be offensive merely because they are competitive. Where an association lacks the power of enforcement, these prohibitions are merely persuasive. But where some measure of coercion is at hand, they may take on the force of law.

COOPERATION OR CONSPIRACY?

Trade associations, in general, have manifested less interest in those activities which are designed to enable the members of a trade, without sacrificing their essential independence of action, to cooperate in increasing efficiency, reducing costs, and improving their service to the public, than in those which are calculated to secure their adherence to a common policy governing production and price. "It is not general advice and assistance to the members, but the desire for industrial control, which is the driving force behind the whole movement," says Whitney. "Legislative, statistical, and technical aid may be helpful

[50] Toulmin, op. cit., p. 97.
[51] Federal Trade Commission, op. cit., p. 307.

to businessmen, but the elimination of overproduction and price cutting is vital. The real core of the trade association movement has lain in its attack on free competition * * *." [52] In the opinion of Burns, "The outstanding characteristic of trade association policies has been their attempt to restrict price cutting." [53] Associations have "aimed in general at securing profits for all their members by maintaining prices and restricting output * * *." [54] The Federal Trade Commission comes to a similar conclusion: "Not only are trade associations organizations of competitors, but the purpose of the organization is usually to regulate, if not to limit, competition in some way or other." [55] According to the Commission, "In trade association circles, emphasis on seeking profits instead of volume of business is current and conspicuous. * * * Emphasis on restriction of output, though, of course, on its face without any element of concert or agreement, is the central idea of the theory back of a good deal of trade association work." [56]

It is impossible to measure the extent to which members of trade associations are actually engaged in cooperating to serve the public and in conspiring against it. The line between cooperation and conspiracy is not an easy one to draw. The courts, to be sure, must attempt to draw it. Price reporting, for instance, is held to be legal if reports are confined to past transactions, is of uncertain legality if they cover current or future transactions and if members are required to adhere to the prices they have filed, and is illegal if essential information is withheld from buyers, if sellers are identified, if members agree upon the prices they will file, and if adherence to these prices is enforced by detailed supervision and by the imposition of penalties.[57] But no one can say with confidence how many of the price reporting systems now in operation fail to overstep this line. And so it is with many other phases of association work. There are some two thousand national trade association offices in the United States. In each of them, a secretary with his staff is working, presumably 6 days in every week, 52 weeks in every year, to administer activities in which competitors do not compete. Upon occasion, the Federal Trade Com-

[52] Whitney, op. cit., p. 38.
[53] Burns, op. cit., p. 67.
[54] Ibid., p. 75.
[55] Federal Trade Commission, op. cit., p. 347.
[56] Ibid., p. 365. For the most recent and the most comprehensive survey of trade association activities see: C. A. Pearce, Trade Association Survey, Temporary National Economic Committee, Monograph No. 18. This study contains a number of interesting statements by association officials. According to the monograph: "These statements with varying degrees of explicitness suggest a retreat from free competition and, in its place, the 'new' or cooperative competition of trade association. The end in view is the collective security of the members, to be achieved by mutually restraining price competition for the available business of the industry, on the one hand, and by expanding the aggregate volume of the business through trade promotion, the development of markets and product uses, improved efficiency, and intelligent adjustment to general market trends, on the other" (p. 98 of the manuscript).

One "prominent trade association administrator" is quoted as follows: "* * * the business leader of today achieves success by managing his individual volume in relation to his industry's volume so as to maximize his revenue and not his physical output. To maximize revenue the individual business man must formulate his policies in light of their effect on the industry of which he is a part as well as in consideration of the facts of his individual enterprise * * *. In the vast majority of instances today, if the rate of growth of an individual producer's volume exceeds the rate of growth of his industry's volume, that growth does not represent a corresponding expansion of the industry's total market; it represents business acquired from a competitor. Every businessman within my hearing knows the inevitable result of a continued loss of volume from one competitor to another. It is for these reasons that businessmen must manage volume so as to share the market, not monopolize it, and, thus, to safeguard the conditions which maximize revenue" (p. 410 of the manuscript).
[57] Lyon and Abramson, op. cit., ch. 2, 3; Kirsh, op. cit., ch. 2.

mission or the Department of Justice makes an investigation and certain practices of an association are proscribed by the Commission or the courts. But no such sporadic action can be expected to disclose each of the cases in which competition is restrained. Nor can there ever be assurance that the merriment, diversion, and conversation, of which Adam Smith once spoke, do not lead to the conspiracies or contrivances to raise prices which he feared, unless an agent of the Federal Government is placed in every trade association office to read all correspondence, memoranda, and reports, attend all meetings, listen to all conversations, participate in all the merriment and diversion, and issue periodic reports on what transpires. No such systematic oversight is now authorized by law.

LIMITATION OF COMPETITION THROUGH TRADE ASSOCIATIONS

The fact that trade associations have frequently succeeded in bringing prices and production under common control is revealed by the results of economic inquiries published by the Federal Trade Commission and by independent investigators, by cease and desist orders issued by the Commission, and by decisions handed down by the courts. It is also suggested by numerous complaints issued by the Commission and by indictments returned by grand juries in proceedings which are still open. A partial list of the instances, involving some hundreds of groups in 135 different trades, in which it has appeared, at some time during the past 20 years, that a trade association, industrial institute, or other common agency was exercising some form of control over production, price, and terms of sale in national or regional markets is given on the pages which follow. The list includes no suits instituted by private parties. It includes only one of the cases [58] decided under the antitrust laws of the several States. It includes no case in which the Federal Trade Commission dismissed a complaint and, with but few exceptions,[59] none of those in which the Government either dropped a suit or suffered a reversal at the hands of the courts. It is obvious, however, that the area in which the economist will find effective competition to be superceded by common control must be much larger than that in which the courts will hold such control to constitute a conspiracy in restraint of trade. The number of cases involving the elimination of competition through common agencies must therefore be substantially greater than the list reveals.[59a]

[58] *The People of the State of New York* v. *The National Elevator Manufacturing Industry, Inc., et al.*

[59] The Government dropped its suit against the Asphalt Shingle and Roofing Institute after a code for the industry had been approved by the N. R. A. The court rendered no decision upon the facts involved in the case. The Supreme Court, while not questioning the fact that sales were centralized and prices fixed by Appalachian Coals, Inc., or that production was controlled by the National Window Glass Manufacturers' Association, held that these activities did not constitute a violation of the anti-trust laws.

[59a] Objection has been made to the employment here and elsewhere in this monograph of allegations from indictments and complaints. If this material were excluded, however, the discussion would be limited to situations proven to exist at some time in the past. The source of the data on current cases is indicated in the text. The charges in these cases, like the reports of other investigations, public and private, can only be taken for what they are worth.

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940

Trade	Agency	Reference
Agricultural implement dealers.	National Federation of Implement Dealers Associations and affiliated regional associations.	F. T. C., Report on the Agricultural Implement and Machinery Industry (1938) pp. 29–32; 326–357; 1036.
	Eastern Federation of Farm Equipment Dealers Associations.	
Agricultural implement manufacturers.	National Implement and Vehicle Association.	Ibid., pp. 217–218.
	Farm Equipment Institute	Ibid., pp. 22–26; 240–265; 1034–1035.
Agricultural insecticide and fungicide manufacturers.	Agricultural Insecticide and Fungicide Association.	F. T. C., complaint, Docket 4145 (1940).
Aluminum cooking utensil manufacturers.	Aluminum Wares Association	F. T. C., Report on House Furnishings Industries, vol. 3 (1924) pp. 66–67.
Amusement ticket manufacturers.	Amusement Ticket Manufacturers Association.	F. A. L.,[1] case 319(1926).
Asphalt shingle and roofing manufacturers.	Asphalt Shingle and Roofing Institute.	F. A. L., case 377 (1930); N. R. A., Division of Review, Work Materials No. 76, Price Filing Under N. R. A. Codes, (1936) vol. 2, pp. 504–511.
Automobile parts and accessories jobbers.	Birmingham Automotive Jobbers Association.	F. T. C., order, Docket 2382, (1935).
	National Standard Parts Association	F. T. C., complaint, Docket 2942 (1936).
	Motor and Equipment Wholesale Association and three regional associations.	
Bakers	American Bakers Association and Associated Bakers of America and affiliated regional associations.	F. T. C., Competition and Profits in Bread and Flour (1928) Ch. 4. 5.
Barbers' supplies distributors	Barbers Supply Dealers Association	F. A. L., case 214(1920).
Bean and barley shippers	Michigan Bean Shippers Association	F. T. C., order, Docket 3937 (1940).
Binders' board manufacturers.	Binders Board Manufacturers Association.	F. T. C., Open-Price Trade Associations (1929) pp. 260, 268–269.
Bituminous coal producers	Appalachian Coals, Inc	F. A. L., case 383 (1933).
Book paper manufacturers	Book Paper Manufacturers Association.	F. T. C., complaint, Docket 3760 (1939).
Building materials distributors.	National Federation of Builders Supply Associations and affiliated regional associations.	F. T. C., Cement Industry, (1933) pp. 102-110; F. T. C. order, Docket 2191 (1937).
	Florida Building Material Institute	F. T. C., order, Docket 2857 (1938).
Blue print paper manufacturers.	Scientific Apparatus Makers of America.	F. T. C., complaint, Docket 3092 (1937).
Bolt, nut, and rivet manufacturers.	Bolt, Nut, and Rivet Manufacturers Association.	F. A. L., case 378 (1931).
Brick manufacturers	Common Brick Manufacturers Association.	F. T. C., Open-Price Trade Associations (1929), pp. 267–268.
Broom manufacturers	National Broom Manufacturers Association.	F. T. C., Report on House Furnishings Industries, vol. 3, (1924), pp. 192–202.
	Broom Handle Manufacturers Association.	Ibid., pp. 183–192.
Brush manufacturers	American Brush Manufacturers Association.	Ibid., pp. 202–208.
	Common agent	F. A. L., case 424 (1937).
Butter tub manufacturers	Butter Tub Manufacturers Council	F. T. C., order, Docket 2650 (1937).
Button and buckle manufacturers.	Covered Button and Buckle Creators.	F. T. C., order, Docket 3186, (1937).
Candy manufacturers	Western Confectioners Association	F. T. C., complaint, Docket 4132 (1940).
Candy stick manufacturers	Imperial Wood Stick Company	F. A. L., case 445 (1939).
Candy wholesalers	Atlanta Wholesale Confectionery Association.	F. T. C., order, Docket 1364, (1927).
	Wholesale Confectioners Club of Richmond.	F. A. L., case 326 (1927).
	Columbus Confectioners Association	F. A. L., case 330 (1927).
	Chicago Association of Candy Jobbers	F. A. L., case 331 (1927).
	Evansville Confectioners Association	F. A. L., case 360 (1929).
	Confectioners Club of Baltimore	F. A. L., case 350 (1930).
	Southern New York Candy Distributors Association.	F. T. C., order, Docket 2292 (1935).
	Wyoming Valley Jobbers Association	F. T. C., order, Docket 2403 (1935).
	New York State Wholesale Confectionery Association.	F. T. C., order, Docket 2613 (1936)

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940—Continued

Trade	Agency	Reference
Canners	Wisconsin Canners Association	F. T. C., Open-Price Trade Associations (1929) pp. 270–271, 282–283.
Card clothing manufacturers	Card Clothing Manufacturers Association.	F. T. C., complaint, Docket 3019 (1936).
Carpet and rug manufacturers	Institute of Carpet Manufacturers	New York Times, Feb. 22, 1940.
Cast iron soil pipe manufacturers.	Cast Iron Soil Pipe Association	F. T. C., complaint, Docket 3091 (1937).
Chalk, crayon, and watercolor manufacturers.	Crayon, Water-Color, and Craft Institute.	F. T. C., order, Docket 2967 (1938).
Cellulose sheeting manufacturers.	National Converters Institute	F. T. C., complaint, Docket 3897 (1939).
Cement manufacturers	Cement Institute	F. T. C., Price Bases Inquiry (1932) pp. 39–42, 98–101; Cement Industry (1933) pp. 98–101; complaint, Docket 3167 (1937).
Charcoal Manufacturers	Hardwood Charcoal Co	F. T. C., order, Docket 3670 (1940).
	Manufacturers Charcoal Co.	
Cheese dealers	Wisconsin Cheese Exchange	F. T. C., Agricultural Income Inquiry (1937), vol. 1, pp. 252–253.
Cigar manufacturers	Cigar Manufacturers Association of Tampa.	F. T. C., order, Docket 709 (1922).
Clay sewer pipe manufacturers.	Southern Vitrified Pipe Association	F. T. C., order, Docket 3868 (1940).
Compressed air machinery and pneumatic tool manufacturers.	Compressed Air Institute	F. T. C., complaint, Docket 3958 (1939).
Concrete pipe manufacturers	Arlington Concrete Pipe Corporation.	F. T. C., order, Docket 3127 (1938)
Copper producers	Copper Institute	Verbatim Record of the Proceedings of the T. N. E. C. (1940) vol. 11, pp. 96–97; Whitney, Simon N., op cit., (1934) pp. 95–96.
Corn products refiners	Corn Derivatives Institute	F. A. L., case 382 (1932).
Corrugated and solid fibre board shipping container manufacturers.	National Container Association and affiliated regional associations.	F. A. L., case 511 (1940).
Corrugated paper manufacturers.	Corrugated Paper Manufacturers Association.	F. A. L., case 226 (1921).
Cotton textile manufacturers	Cotton Textile Institute	Whitney, S. N., op. cit., pp. 70–73.
	Curtailment Program Committee	*U. S.* v. *Joseph E. Serrine, et al.*, District Court of U. S., W. D. of S. C., information, Jan. 2, 1940.
Cotton yarn manufacturers	Southern Yarn Spinners Association	F. T. C., Open Price Trade Associations (1929) pp. 280–282.
Cottonseed crushers	State cottonseed crushers associations affiliated with Interstate Cottonseed Crushers Association and its successor, National Cottonseed Products Association.	F. T. C., Report on the Cottonseed Industry (1933) Part 13, pp. 15,737–15,742; Ch. 4.
Cottonseed oil refiners	National Cottonseed Products Association, oil and shortening division, and its successor, Institute of Cottonseed Oil Foods.	Marshall, George, "Cottonseed, etc.," in Hamilton, Walton H., Price and Price Policies, New York, 1938, pp. 275–285.
Distillers	Distilled Spirits Institute	F. T. C., orders, Dockets 2988–2992 (1938); Hearings before the T. N. E. C. (1939) pp. 1757–1763, 2628–2673.
Dress manufacturers	Dress Creators League of America	F. A. L., case 401 (1934).
	Party Dress Guild	F. A. L., case 402 (1934).
	Half-Size Dress Guild	F. A. L., case 403 (1934).
	Fashion Originators Guild	F. T. C., order, Docket 2769 (1939).
	Popular Priced Dress Manufacturers Group.	F. T. C., complaint, Docket 3778 (1939).
	Dress Returns Control Bureau	Ibid.
Dry goods and notions dealers	Wholesale Dry Goods Institute	F. T. C., complaint, Docket 3751 (1939).
Elevator manufacturers	National Elevator Manufacturing Industry.	*People of the State of New York* v. *National Elevator Manufacturing Industry, Inc., et al.*, special term, part II, Supreme Court, State of N. Y., decree (1939).

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940—Continued

Trade	Agency	Reference
Fire hose manufacturers	Rubber Manufacturers Association	F. T. C., order, Docket 2352 (1935).
Fireworks manufacturers	Pyrotechnic Industries	F. T. C., order, Docket 3309 (1938).
Flour millers	Washington Cereal Association	F. T. C., order, Docket 1345 (1927).
	Oregon Cereal and Feed Association	Ibid.
	Millers National Federation and affiliated regional associations.	F. T. C., Competition and Profits in Bread and Flour (1928) ch. 10; Conditions in the Flour Milling Business (1932) passim; Agricultural Income Inquiry (1937), vol. 1, pp. 292–295.
Flower growers and distributors.	Flower Producers Cooperative Association.	F. A. L., case 307 (1926).
Fur coat pattern makers	Empire Style Designers League	F. T. C., complaint, Docket 4136 (1940).
Fur dressers	Protective Fur Dressers Corporation	F. A. L., case 394 (1936).
	Fur Dressers Factors Corporation	F. A. L., case 396 (1937).
Furnace manufacturers	National Warm Air Heating and Ventilating Association.	F. T. C., Report on House Furnishings Industries, vol. 2 (1923), Ch. 11.
	The Midland Club	Ibid., Ch. 12.
Galvanized ware manufacturers.	Sheet Metal Ware Exchange	F. A. L., case 250 (1922).
Glass container manufacturers	Glass Container Association	*U. S.* v. *Hartford-Empire Company, et al.*, District Court of the U. S., N. D. of Ohio, W. Div., complaint, Dec. 11, 1939.
Glass distributors	National Glass Distributors Association.	F. T. C. orders, Dockets 3154 (1937) and 3491 (1938).
	Glass Jobbers Association of San Francisco and Oakland.	*U. S.* v. *W. P. Fuller & Co, et al.*, District Court of the U. S., N. D. of Calif., S. Div., indictment, Mar. 15, 1940.
Glass manufacturers	National Window Glass Manufacturers Association.	F. A. L., case 269 (1923); Watkins, Myron W., op. cit. (1927), pp. 160–161.
Glassware wholesalers	Hotel, Restaurant, and Tavern Equipment Association.	F. T. C., complaint, Docket 3861 (1939).
Glazed paper manufacturers	Common selling agency	F. A. L., case 232 (1921).
	Glazed and Fancy Paper Manufacturers Association.	F. T. C., Open-Price Trade Associations (1929), p. 269.
Golf ball manufacturers	Golf Ball Manufacturers Association	F. T. C., order, Docket 3161 (1938).
Grocery wholesalers	Wholesale Grocers Association of El Paso, Tex.	F. T. C., order, Docket 501 (1920).
	Atlanta Wholesale Grocers	F. T. C., order, Docket 579 (1922).
	St. Louis Wholesale Grocers Association.	F. T. C., order, Docket 893 (1923).
	Missouri-Kansas Wholesale Grocers Association.	F. T. C., order, Docket 990 (1925).
	North Dakota Wholesale Grocers Association.	F. T. C., order, Docket 1085 (1925).
	Southern California Grocers Association.	F. A. L., case 283 (1925).
	California Wholesale Grocers Association.	F. A. L., case 284 (1926).
	Utah-Idaho Wholesale Grocers Association.	F. A. L., case 285 (1926).
	Oregon Wholesale Grocers Association	F. A. L., case 291 (1926).
	Wisconsin Wholesale Grocers Association.	F. T. C., order, Docket 1145 (1926).
	Arkansas Wholesale Grocers Association.	F. T. C., order, Docket 1232 (1926).
	Wholesale Grocers Association of New Orleans.	F. T. C., order, Docket 1343 (1927).
	Fall River Wholesale Grocers Association.	F. T. C., order, Docket 2677 (1936).
Gummed tape manufacturers	National Association of Gummed Tape Manufacturers.	F. T. C., Open-Price Trade Associations (1929), pp. 272–273.
Gypsum products manufacturers.	Gypsum Industries Association	F. A. L., case 268 (1922).
Hardware wholesalers	Southern Hardware Jobbers Association.	F. A. L., case 315 (1926).

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940—Continued

Trade	Agency	Reference
Harness and saddlery dealers	National Harness Manufacturers Association of the United States.	F. T. C., order, Docket 16 (1920).
	Wholesale Saddlery Association of the United States.	
Hat frame manufacturers	National Hat Frame Association	F. A. L., case 322 (1927).
Household furniture manufacturers.	Southern Furniture Manufacturers Association.	F. T. C., Report on House Furnishings Industries, vol. 1 (1923), Part 2, Ch. 3.
	National Alliance of Case Goods Associations.	Ibid., Part 2, ch. 4.
	Central Bureau of Dining Table Manufacturers.	Ibid., Part 2, ch. 6, secs. 2, 3.
	Association of Living Room Table Manufacturers.	Ibid., Part 2, ch. 6. sec. 4.
	National Association of Chair Manufacturers.	Ibid., Part 2, ch. 5; F. A. L., case 297 (1925).
	National Alliance of Furniture Manufacturers.	F. A. L., cases 298, 302, 303 (1925).
Industrial alcohol manufacturers.	Industrial Alcohol Institute	Whitney, S. N., op. cit., pp. 131, 136.
Industrial rivet manufacturers.	Institute of Tubular Split and Outside Pronged Rivet Manufacturers.	F. T. C., order, Docket 3107 (1938).
Jewelry retailers	Eighteen Karat Club	F. A. L., cases 312, 317 (1927).
Kitchen utensils manufacturers.	Open price association	F. A. L., case 255 (1922).
Kraft paper manufacturers	Kraft paper association	*U. S.* v. *Kraft Paper Association et. al.*, District Court of the U. S., S. D. of N. Y., indictment, July 20, 1939; F. A. L., case 544 (1940).
Ladies' handbag manufacturers.	National Association of Ladies Handbag Manufacturers.	F. T. C., order, Docket 2226 (1935).
Laundries	Southern California Laundry Owners Association.	F. T. C., order, Docket 1954 (1932).
Lead pencil manufacturers	Lead Pencil Institute and its successor, Lead Pencil Association.	F. T. C., order, Docket 3643 (1939).
Lecithin	American Lecithin Company	F. T. C., complaint, Docket 4173 (1940).
Life insurers	Group Life Association	Hearings before the T. N. E. C., Part 10, pp. 4154 ff.
Lime manufacturers	Common agent	F. T. C., complaint, Docket 3591 (1939).
Linseed crushers	Linseed Crushers Council	F. A. L., case 215 (1923).
Liquor dealers	Wholesale Liquor Distributors Association of Northern California.	F. T. C. complaint, Docket 4093 (1940).
	Liquor Trades Stabilization Bureau	Ibid.
	National Retail Liquor Package Stores Association and constituent State and local associations.	F. T. C., complaint, Docket 4168 (1940).
Lumber distributors	California Lumbermens Council and affiliated regional clubs.	F. T. C., order, Docket 2898 (1938).
	National Association of Commission Lumber Salesmen.	F. A. L., cases 489, 490 (1940).
Lumber manufacturers	American Hardwood Manufacturers' Association.	F. A. L., case 210 (1921).
	Southern Pine Association	F. A. L., cases 489, 490 (1940).
	West Coast Lumbermens Association	F. T. C., Lumber Manufacturers Trade Associations (1922), passim.
	Western Pine Manufacturers Association.	Ibid.
	Northern Hemlock and Hardwood Manufacturers Association.	F. T. C., Northern Hemlock and Hardwood Manufacturers Association (1923) pp. viii, xiii, 24, 27, 30, 33.
	Maple Flooring Manufacturers Association.	*Maple Flooring Manufacturers Association* v. *U. S.*, 268 U. S. 563 (1925) Reply Brief for the United States; Petition by the Attorney General for Rehearing.
	Hardwood Institute	F. T. C., complaint, Docket 3418 (1938).
Machine tools manufacturers	Machine Tool Distributors, Chicago District.	F. T. C., order, Docket 1882 (1932).
Malleable iron castings manufacturers.	American Malleable Castings Association.	F. A. L., case 282 (1926).

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940—Continued

Trade	Agency	Reference
Malt manufacturers	United States Maltsters Association	F. T. C., complaint, Docket 3555 (1939).
Metal window manufacturers	Metal Window Institute	F. T. C., order, Docket 2978 (1937).
Millinery manufacturers	Millinery Quality Guild	F. A. L., case 386 (1934).
Music composers	American Society of Composers, Authors, and Publishers.	F. A. L., case 404 (1935).
Music publishers	Consolidated Music Corporation	F. A. L., case 216 (1922).
	Music Publishers Association of the United States.	F. T. C., order, Docket 400 (1923).
	Music Publishers Protective Association.	F. A. L., case 404 (1935).
Oil refiners	Independent Refiners Association of California.	F. A. L., case 460 (1940).
Optical goods wholesalers	Optical Wholesale National Association; Optical Wholesalers Association of New York; Philadelphia Association of Wholesale Opticians.	*U. S.* v. *American Optical Co., et al., U. S.* v. *Optical Wholesalers National Association, Inc., et al.*, indictments, District Court of the U: S., S. D. of N. Y., May 28, 1940.
Paper cup and container manufacturers.	Cup and Container Institute	F. T. C., complaint, Docket 3046 (1940).
Paper distributors	Pacific States Paper Trade Association.	F. T. C., order, Docket 934 (1923); *F. T. C.* v. *Pacific States Paper Trade Association*, 88 Fed. (2d) 1009 (1937).
Paper, pulp, and wooden dish manufacturers.	Food Dish Associates	F. T. C., order, Docket 3397 (1938).
Peanut cleaners and shellers	National Peanut Cleaners and Shellers Association.	F. A. L., case 294 (1925).
Photo-engravers	American Photo-Engravers Association.	F. T. C., orders, Dockets 82, 928 (1928).
Plumbing supplies distributors.	American Institute of Wholesale Plumbing and Heating Supply Associations and affiliated state, county, and city associations.	*U. S.* v. *Central Supply Association, et. al.*, District Court of the U. S., N. D. of Ohio, indictment, Mar. 29, 1940.
Potato chip manufacturers	Eastern States Potato Chip Manufacturers Association.	F. T. C., Agricultural Income Inquiry (1937) vol. 1, pp. 621–623.
	Potato Chip Manufacturers Association of the United States.	
Potato dealers	Potato Sales Co	Ibid., pp. 632–633.
	Freehold Potato Sales Co	Ibid., p. 634.
	Grower-Dealer Potato Market Committee.	Ibid., p. 634.
Power cable and wire manufacturers.	National Electrical Manufacturers Association.	F. T. C., order, Docket 2565 (1936).
Power lawnmower manufacturers.	Power and Gang Mower Manufacturers Association.	F. T. C., complaint, Docket 3689 (1939).
Printers	United Typothetae of America	F. T. C., order, Docket 459 (1923).
Range boiler manufacturers	Range Boiler Manufacturers Association.	Hearings before the T. N. E. C. (1939) pp. 2408–2409.
Refrigerator manufacturers	National Refrigerator Manufacturers Association.	F. A. L., case 296 (1925).
Retail credit reporters	National Retail Credit Association	F. A. L., case 390 (1933).
Rice millers	California Rice Industry	F. T. C., order, Docket 3090 (1938).
Rubber heels and soles dealers	National Federation of Master Shoe Rebuilders.	F. T. C., order, Docket 2802 (1937).
Sardine canners	Maine Cooperative Sardine Co	F. A. L., case 329 (1927).
	Norwegian Canners Price Committee	F. A. L., case 374 (1931).
Sanitary pottery manufacturers.	Sanitary Potters Association	F. A. L., case 259 (1927).
Shoe findings wholesalers	Northwest Shoe Finders Credit Bureau.	F. A. L., case 324 (1928).
Snow fence manufacturers	United Fence Manufacturers Association.	F. T. C. order, Docket 3305 (1938).
Sponge distributors	Tarpon Springs Sponge Exchange, Sponge Institute.	F. T. C., order, Docket 3024 (1938).
	Florida Sponge Packers Association	F. T. C., order, Docket 3025 (1939)
Steel manufacturers	American Iron and Steel Institute	F. T. C., order, Docket 760 (1924); Practices of the Steel Industry Under the Code (1934) Ch. 3; Hearings Before the T. N. E. C. (1939), pp. 1860–1901, 2192–2200.

Trade associations, industrial institutes, and other common agencies said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in national or regional markets from 1920 to 1940—Continued

Trade	Agency	Reference
Steel office furniture manufacturers.	Steel Office Furniture Institute	F. T. C., order, Docket 3319 (1940).
Stove manufacturers	National Association of Stove Manufacturers and affiliated product and regional associations.	F. T. C., Report on House Furnishings Industries, vol. 2 (1923), Ch. 4–10.
Sugar refiners	Sugar Institute	F. A. L., case 379 (1936).
Surgical instrument distributors.	Metropolitan Surgical Instrument Council.	F. T. C., order, Docket 2409 (1936).
Tanners	Tanners Products Co	F. A. L., case 300 (1927).
Terra cotta manufacturers	National Terra Cotta Society	F. A. L., cases 242, 256 (1923).
Textile refinishers	Textile Refinishers Association	F. A. L., case 414 (1936).
Tile manufacturers	Tile Manufacturers Credit Association	F. A. L., case 248 (1923).
Tin plate manufacturers	National Association of Tin Plate Manufacturers.	F. T. C., Brief on Pittsburgh Plus (1924), pp. 44, 225.
Tobacco wholesalers	Wholesale Tobacco and Cigar Dealers Association of Philadelphia.	F. T. C., order, Docket 886 (1924).
	National Association of Tobacco Distributors.	F. T. C., Agricultural Income Inquiry (1937), vol. 1, pp. 524–525.
	Wholesale Tobacco Distributors of New York.	Ibid., p. 531.
	Philadelphia Division, National Association of Tobacco Distributors.	Ibid., pp. 539–540.
	Cleveland Tobacco Jobbers Association.	Ibid., pp. 540–542.
	Chicago Tobacco Jobbers Association	Ibid., pp. 542–546.
	Chicago Division, National Association of Tobacco Distributors.	Ibid.
	Detroit Tobacco Jobbers Association	Ibid., pp. 546–547.
Uniform cap manufacturers	Uniform Cap Manufacturers Institute	F. T. C., order, Docket 2530 (1937).
	Cap Association of the United States	Ibid.
Vacuum cleaner manufacturers	Vacuum Cleaner Manufacturers Association.	F. T. C., Report on House Furnishings Industries, vol. 3, (1924) Ch. 2.
Washing machine manufacturers.	American Washing Machine Manufacturers Association.	Ibid., Ch. 3.
Waxed paper manufacturers	American Waxed Paper Association	F. T. C., Open-Price Trade Associations (1929), pp. 261–265.
Water gate valves, hydrants, and fittings manufacturers.	Waterworks Valve and Hydrant Group of the Valve and Fittings Institute.	F. T. C., order, Docket 2958 (1937).
Water-marked paper manufacturers.	Common agent	F. A. L., case 352 (1928).
Wooden container manufacturers.	Standard Container Manufacturers Association.	F. T. C., Agricultural Income Inquiry (1937), vol. 2, p. 616; F. T. C., order, Docket 3289 (1940).
	American Veneer Package Association and four regional associations.	F. T. C., order, Docket 3556 (1940).
Woolen textile manufacturers	Wool Institute	F. A. L., case 375 (1930).
Zinc- and copper-plate products manufacturers.	Photo-Engravers Copper Zinc and Grinders Association.	F. T. C., order, Docket 2660 (1936).

[1] The Federal Antitrust Laws, Government Printing Office, Washington, 1938, pp. 81–269, "Summary of Cases Instituted by the United States Under the Antitrust Laws," with mimeographed supplement issued by the Department of Justice.

CONTROL OF PRICES THROUGH TRADE ASSOCIATIONS

The instances in which trade associations are known to have exerted control over prices are so numerous that discussion of this aspect of their activities must be limited to a few illustrations.

FLOUR

Control in the flour milling industry has taken the form of drives to outlaw sales below or at "cost," centralized determination of the elements which enter into "cost," agreement concerning the terms of sale, and both informal and systematic exchange of price quotations.

A president of the Millers National Federation is quoted by the Federal Trade Commission as saying that [60]—

> The ultimate purpose of all our activities is to bring about in the industry a condition where every miller in the United States can demand and secure a reasonable profit on every barrel of flour manufactured and sold.

To this end millers were urged, in trade meetings and through correspondence, to maintain prices at profitable levels. "It was the consensus of opinion" at a meeting of the Federation held in October 1923, according to an association official, "that all should determine not to sell without a profit." [61] A representative of a large Minneapolis mill, speaking at a meeting of a Southern Minnesota association, assured its members that the large millers [62]—

> would not sell flour without a margin, that they would not sell beyond 60 days without a carrying charge, and that they had fully determined to make a profit on everything they sold, and had given up the idea that they would run their mills full time anyway.

One Minneapolis miller, objecting to an article in a trade journal which suggested that "a number of northwestern and Wisconsin mills are in conference, resulting in their quoting identical prices for flour," wrote as follows: [63]

> I presume this rumor started by the fact that the millers got together, just as we did the other day, but there was no attempt to make any fixed price on flour or to do anything except to open the eyes of some of the millers who do not figure cost and are quoting flour way beyond reason.

Local millers' clubs in Kansas encouraged members to study their costs and add 25 cents a barrel, "the profit allowed by the Food Administration during the war." A Kansas miller explained that "at these meetings they talk over the millers' troubles and try to get them all to agree not to sell below cost; that is, to 'agree each one with himself not to sell below his cost.'" [64] Millers assured one another that they were adhering to these programs. The president of one large mill wrote to the vice president of another: [65]

> It is exceedingly encouraging to have you write that even in the face of declining sales you are going to maintain a rigid policy as to making a profit on all orders.

And a Milwaukee miller reported that—[66]

> * * * the conclusions on the part of the millers has [sic] already borne considerable fruit notwithstanding and in face of the fact that sales are practically at a standstill. While here and there we find that millers are weak enough to make sales which certainly do not represent their cost, our sales force is unanimous in reporting that prices are quite in line with ours, which represent full milling cost with a profit added to it.

The establishment of uniform prices in the industry was facilitated by a centralized determination of "costs." Northwestern millers set up a "service bureau" in 1924 to issue information on "costs." This agency distributed "market cost cards" which were taken as reflecting the average cost of producing flours in all the mills of the Northwest. The Federal Trade Commission's characterization of the bureau's

[60] Federal Trade Commission, Competition and Profits in Bread and Flour, 70th Cong., 1st sess., S. Doc. 98 (1928), p. 362.
[61] Ibid., p. 354.
[62] Loc. cit.
[63] Ibid., p. 360.
[64] Ibid., p. 362.
[65] Ibid., p. 357.
[66] Ibid., pp. 355–356.

figures as "inflated specification costs" is supported by the fact that they sometimes exceeded the prices prevailing during periods when the mills were enjoying substantial profits.[67] The Millers National Federation adopted a "uniform cost and accounting system" in 1925. It not only issued a "standard cost card," but also proposed that certain "costs" be computed on the basis of operation at 60 percent of capacity, and even suggested in dollars and cents the sums to be included in the estimate of "costs." [68]

The federation was also interested in standardizing certain price elements in the terms of sale. It adopted a schedule of uniform package differentials, setting forth the sums to be added to or subtracted from a basic price for flour packed in various sizes and in containers of various types. It fixed a uniform carrying charge for flour held by the miller beyond the time named in the contract. Constituent associations—regional, State, and local—recommended to their members that they employ the standardized differentials and carrying charge. According to a member of the federation staff, the schedule of differentials, which was revised from time to time, came to be "accepted as official throughout the country." [69]

A plan for the systematic exchange of price information was put into effect after a meeting of the federation in 1923. Price reporting apparently commended itself to the industry as a means of preventing price cutting. The president of the federation, in answer to a complaint that flour was being offered in New York City "below cost of production," voiced a desire "to have the chance of checking up on the people who are making destructive prices." [70] And a Kansas City miller, writing in support of the exchange of price data, argued that "if a miller was really cutting prices, he would stop as soon as he found out that it was public knowledge." [71]

A study by the Federal Trade Commission, covering 91 companies in the years 1923 and 1924, suggests either that the gravity of the "sales below cost" problem was exaggerated by the millers or that association activities were successful in relieving it, since the average annual return which these concerns realized on their investment stood at 8.9 percent.[72]

BREAD

Associations have also undertaken to control competition in the bread baking industry. The American Bakers' Association, a national body whose membership in 1925 included 13 constituent associations and 526 concerns, has been instrumental in the adjustment of competitive conflicts and in the negotiation of agreements on price. This body undertook to settle "price wars" in Western Pennsylvania, in Fort Wayne, Ind., Danville, Ill., Hastings, Mich., and Denver, Colo.,[73] in Kenosha, Wis., and Kansas City, Mo., and in the Pacific Northwest. In the Kenosha case, the association persuaded a Chicago baker selling in the Kenosha market to sell at prices set by the

[67] Ibid., p. 391.
[68] Federal Trade Commission, Conditions in the Flour-Milling Business, 72d Cong., 1st sess., S. Doc. 96 (1932), p. 24.
[69] Ibid., p. 9.
[70] Ibid., p. 15.
[71] Federal Trade Commission, Competition and Profits in Bread and Flour, p. 367.
[72] Federal Trade Commission, Conditions in the Flour Milling Business, p. 2.
[73] Federal Trade Commission, Competition and Profits in Bread and Flour, ch. 4.

Kenosha firms.[74] In the Kansas City case, the secretary-business manager of the association wrote:[75]

* * * you will be glad to know that the Kansas City troubles have been straightened out and that bread went back on a 7- and 10-cent basis Monday morning. I think we can give our committee on trade and industrial relations the credit for this settlement. For the present, however, the subject had better not be discussed.

In the Northwest, the Washington State Master Bakers' Association cooperated with the national body in effecting a settlement. In a letter to its membership this association said:[76]

When the association started there were several bread and cake wars in various parts of the State—some of them quite serious * * *. Today an armistice has been signed on the battle front of every large scrap, and the outlook is substantially improved. The secretary is ready to go to any part of the State at any time an outbreak is threatened.

The Washington association also distributed a bulletin containing the results of a cost-analysis survey which concluded:[77]

The above figures speak for themselves and certainly do not justify any cut in prices. The correct wholesale price of bread is 8 cents for pound loaf and 12 cents for pound-and-one-half loaf.

The Associated Bakers of America, another national group, carried on most of its activities through State, district, and local associations. One of these, the Associated Bakers of Illinois, held 37 district meetings in 1 year, effected agreements on prices, premiums, and other relevant matters at 11 meetings, and prepared the ground for such agreements at several others.[78] The Indiana Bakers' Association organized local groups and held similar meetings. Its secretary wrote:[79]

Had a fine meeting in Evansville last Wednesday and the boys organized a local association to be known as the Tristate Bakers' Club. I believe they are going to get along fine from now on for some time at least. I understand their prices next Monday will be 8 cents and 12 cents wholesale, which I hear is about the same action as has taken place in Wabash, Logansport, Marion, and Huntington.

The Potomac States Association and the New England Bakers' Association were likewise instrumental in bringing prices under control.[80]

High profits went hand in hand with these activities during the period covered by the Federal Trade Commission's survey. In 1925, 57 companies, producing 30 percent of the commercial output of bread, realized a return of 15.32 percent on their stated investment and 23.55 percent on their investment as revised by the Commission to exclude intangible assets and all ascertainable appreciation of assets during the preceding 5 years. In the 6 years from 1920 through 1925, they averaged 14.90 percent annually on their investment as stated and 25.29 percent on their investment as revised.[81]

HOUSEHOLD FURNITURE

Price fixing was found to be a characteristic activity of certain trade associations in the household furniture industry between 1920 and 1922,

[74] Ibid., pp. 72–76.
[75] Ibid., p. 86.
[76] Ibid., p. 92.
[77] Ibid., p. 92.
[78] Ibid., p. 134.
[79] Ibid., p. 153.
[80] Ibid., pp. 170–190.
[81] Ibid., p. 283, table 50.

capital levy which will make it unnecessary to burden the nation with a staggering debt.

3. Recognizing the condition of many people whose low incomes do not permit further withdrawals for deferred payment funds, an exempt minimum is provided, a sharply progressive scale of deferred payments based on increments of income is used, and a system of family allowances made to ease the burden on those who have no satisfactory margin above the barest necessities of life.

4. Provision of an "iron ration" of absolute necessities which will not be permitted to vary in cost or consumption as general prices change.

The" timing" in this bold proposal is left up to the Government, which shall determine from general economic conditions when to release funds from the deferred-payment accounts, in the inevitable depression following the war. The passage of a capital levy would be up to the Parliament in power during that post-war period. Its size would be determined by the amount of debt incurred to finance the war, and the forced loans to be repaid.

A capital levy made during the war to finance it cannot prevent inflation through curtailing purchasing power and lessening the demand for consumers' goods, for it does not divert such mass purchasing power. After the war is over, however, it provides an immediate means of paying off the war debt, distributes purchasing power among the consuming public, and reduces savings in a period of constriction of the investment market when they would inevitably remain idle. Also, it redistributes wealth on a more equitable basis.

What are the alternatives confronting the British nation? As Keynes points out, the so-called "normal" methods of meeting wartime needs are a combination of stiff taxation along accepted lines, voluntary savings stimulated by active propaganda, and sufficient inflation to raise income to the level needed to produce high tax yields and large savings. Then, by withdrawing an adequate amount of potential consumers' purchasing power through taxation and borrowings, the force which otherwise would irresistibly raise prices and bring on the inflationary spiral can be controlled. But Keynes believes it is impossible to achieve this, and at the same time preserve the best objectives of a democracy in wartime. The controls necessary for this method of preventing inflation deny the basic objectives of democracy. If strict controls are not established, the inflationary spirals cannot be prevented.

Germany has apparently been successful in enforcing a wartime fiscal policy which has prevented inflation and at the same time provided the nation with the resources needed to wage a successful war. But she has done so through the imposition of drastic controls, including a comprehensive system of rationing and frozen prices, a system of direct deductions from wages for social and governmental purposes, and a complete regimentation of workers, management, and owners of business. But Germany is a totalitarian state which mocks the weaknesses of democracy and its inability to marshal its economic forces for successful war activities. Germany, furthermore, has no obligation to preserve any measure of free enterprise or individual choice. To adopt her policies would be to deny the very essentials of democracy.

Probably the soundest criticism to be leveled at the Keynes plan is that it involves drastic changes of fiscal policy and taxation, so radical in comparison with the customary procedures as to appear revolutionary. Whether anything short of such drastic changes will suffice can be proved only by experience. It is hardly likely that the Keynes plan will be adopted, however, not only because of its complexity, but because it involves great sacrifices of wealth, and much foresight and abstinence on the part of the whole population. Even the stress of war seems insufficient to force such widespread changes in public policy.

THE FLYNN PLAN

The Senate committee investigating the munitions industry devoted considerable time to the study of wartime taxation and price control, with John T. Flynn, noted publicist and authority on finance, as consultant to the committee. He is largely responsible for a plan which seeks to defray the cost of war on a pay-as-you-go basis, thereby removing the forces which cause inflation and its evils.[89]

Senator Arthur Vandenberg, member of the committee, stated Flynn's fundamental thesis succinctly as follows:

> It is proposed to strike at the economic heart of the war profit by the simple fundamental device of requiring that no future war be fought on borrowed money, but should be paid for substantially by current taxes. It is the process of making war on borrowed money which primarily creates the sinister inflation out of which grows:
> 1. The opportunity for swollen profits.
> 2. The economic dislocation of the war era.
> 3. The post-war calamity of deflation.[90]

The Flynn plan consists primarily of dependence on drastically revised corporate and personal income taxes. The former provides that corporation profits up to 6 percent of the capital value of such corporations will bear a 50-percent tax. An excess-profits tax of 100 percent will be levied on all profits above 6 percent. To cite Flynn's example, a corporation with an adjusted declared value of $100,000,000 makes $50,000,000 in a war year. Profits of 6 percent of the declared value, or $6,000,000, would be taxed at 50 percent, or $3,000,000. The remaining profits of $44,000,000 would be taxed at 100 percent. Thus this corporation would pay a total tax of $47,000,000, leaving it with a net profit after taxes during that war year of $3,000,000.

The personal income-tax changes proposed are also very drastic. The elaborate mechanism of normal and surtaxes is to be eliminated, and a rate structure imposed which does not permit even the topmost tax-free income to exceed $10,000. As Flynn says:

> That may look very drastic to the man who is making $50,000 now and who made $100,000 a year in the last war, but it ought not to be so bad, because, after all, you ought not to be accused of unreasonableness when you ask a man to run a factory for the same sum that you pay a general commanding in the field.[91]

In order to speed up the collections from these taxes, Flynn proposed that they be collected on a quarterly basis. He also advised requiring corporations to file with the Government a list of officers' salaries

[89] Hearings before the Special Committee Investigating the Munitions Industry, U. S. Senate, Part 22, Wartime Taxation and Price Control, 1935.
[90] Ibid., p. 6243.
[91] Ibid., p. 6186.

tions, and divergent across State lines, save in those cases where State secretaries cooperated in exchanging information.[95]

Cottonseed oil refiners, like cottonseed crushers, have employed price reporting as a means of achieving price uniformity. They set up a reporting system in 1926, when they belonged to the Oil and Shortening Division of the National Cottonseed Products Association, and have continued it under the auspices of the Institute of Cottonseed Oil Foods which they organized in 1932. When the Department of Justice ruled in 1929 against the interchange of current prices, the refiners, like the crushers, adopted the subterfuge of labeling them as past prices.[96] Administration of the program has been facilitated by the standardization of container sizes and the establishment of uniform terms of sale.[97] Through these devices, "apparently supplemented by customary adherence and gentlemen's agreements," the refiners have maintained virtually identical prices in the markets in which they sell.[98]

ASPHALT SHINGLE AND ROOFING

The producers of asphalt shingle and roofing are said to have held a meeting in May 1928, at which they agreed to base the prices of nonpatented products on the minimum prices fixed by the Flintkote Co. for products manufactured under patents, numbering a thousand or more, which it owned, and under patents belonging to other concerns which it administered in a common pool. Prices charged by the industry immediately rose by 11.5 percent, and for a time remained both uniform and constant. They broke, however, when some of the firms failed to adhere to the agreement.[99] In the following year, the Asphalt Shingle and Roofing Institute, profiting by this experience, adopted a "merchandising plan" which included a penalty provision designed to insure compliance. Shortly thereafter, the Department of Justice entered suit against the institute and its officials, charging that its members had fixed uniform and noncompetitive prices, terms, discounts, and freight charges, that they had adopted an arbitrary classification of customers, that they had agreed upon the credit qualifications of customers, that they had operated a price reporting system under which no member could change his prices without first notifying the others, and that they had enforced these arrangements by requiring each member to post a $100,000 bond and to agree to the imposition of penalties which might amount to as much as $25,000 for a single breach of the agreement.[1] The suit was dropped in 1935 after a code of fair competition for the industry had been approved by the N. R. A. It is contended, however, that this "did not indicate a weakness in the Department of Justice's cause of action, nor may it be inferred that it acted in the nature of an absolution of the alleged conspirators."[2]

[95] Ibid., p. 15826.
[96] George Marshall, "Cottonseed—Joint Products and Pyramidal Control," in Walton H. Hamilton. Price and Price Policies, 1938, pp. 280–281.
[97] Ibid., p. 283.
[98] Ibid., p. 279.
[99] Enid Baird, Price Filing Under N. R. A. Codes, N. R. A. Division of Review, Work Materials No. 76 (mimeo.), vol. 2, pp. 504–505.
[1] *U. S.* v. *Asphalt Shingle and Roofing Institute, et al.*, Bill in Equity No. 57–162, District Court of the United States, Southern District of New York.
[2] Baird, op. cit., p. 510.

POWER CABLE AND WIRE

The decisions of the Federal Trade Commission reveal many other cases in which the members of an industry, acting through a trade association, have succeeded in eliminating competition in price. Before 1937 the producers of copper cable and wire for electrical transmission, combined in the National Electrical Manufacturers' Association, held frequent meetings at which they agreed to quote identical prices and to sell on identical conditions and terms. Some of the larger manufacturers compiled and circulated detailed price lists to which their smaller competitors were expected to conform, promising to notify them of contemplated changes and to instruct them concerning the methods of calculation to be employed. Association members agreed that no customer should be allowed to purchase except upon a delivered price basis and adopted a formula by which such prices were to be computed. They determined who should be recognized as jobbers, offered them identical discounts, required them to adhere to fixed resale prices, and refused to deal with those who failed to conform. The association administered a reporting system through which its members exchanged detailed information as to prices, discounts, and terms of sale. It investigated cases of alleged price cutting and imposed penalties on manufacturers who failed to adhere to the prices upon which the industry had agreed. On December 29, 1936, the Commission ordered the association and its members to cease and desist from these activities.[3]

STEEL WINDOW PRODUCTS

The manufacturers and distributors of steel window products, acting through the Metal Window Institute, published a "basic price book" which contained a detailed list of gross prices for all of these products and set forth formulas whereby specific prices were computed by deducting standard discounts from the basic figures. They adopted common schedules of discounts, filed them with the association, and agreed not to deviate from them without giving notice of their intention to do so. They adopted and agreed to adhere to common conditions and terms of sale. They established and maintained a number of regional clearing bureaus to which they submitted their estimates on the plans and specifications set forth in connection with requests for bids on various construction projects and through which they compared these estimates and agreed upon identical gross or net prices which they then used in submitting bids. According to the Federal Trade Commission, "The association required its members to adhere to the established prices by actively policing the industry and threatening to impose penalties on those who sold for less."[4] The Commission issued a cease and desist order in this case on November 30, 1937.

SNOW FENCE

The producers of snow fence, members of the United Fence Manufacturers' Association, maintained a system of identical delivered

[3] Hearings before the Temporary National Economic Committee, Part 5–A, p. 2319.
[4] Ibid., p. 2329.

prices and employed a price reporting scheme. Their activities are described by the Commission: [5]

> Delivered price lists, discounts, and terms of sale were filed with the secretary of the association and maintained until revised. Such delivered price charges were not made effective by all producer-members on the same day, but soon after any producer-member filed one, the others followed. Delivered prices for carload and less-than-carload quantities were identical on snow fence products of each standard type. Likewise, the discounts and terms of sale were identical. * * * Producer-members refused to make shipments upon consignment, and reported all price cutting to their secretary, who undertook to stop it. Each producer-member agreed to submit to an investigation and examination, under oath, conducted by a board of trustees, if he were charged at any time with a violation of his undertakings pursuant to the * * * agreement.

Distributors were arbitrarily classified and a different discount was allowed those in each class. They were required to maintain fixed resale prices and to report all instances of price cutting. Those who failed to do so were threatened and cut off from their sources of supply. The Commission issued a cease and desist order on July 13, 1938.

ALLOCATION OF MARKETS AND CUSTOMERS THROUGH TRADE ASSOCIATIONS

In some cases, trade associations have undertaken to distribute among their members exclusive sales areas or groups of customers. "It appears to be a widely accepted principle" says the Federal Trade Commission, "that concerns selling in the local territories of others in the industry should respect the prices established by the local concern. Cases of violation of this principle have been reported to association executives, who in turn have taken to task the offending member." [6] This sort of pressure was applied by officials of the Common Brick Manufacturers' Association in 1924 and 1925 and by those of the Nebraska Millers' Association and the National Association of Gummed Tape Manufacturers in 1926 and 1927.[7] While such activity permits one member to invade another's market, it denies him the right to do so by competing on the basis of price. While it does not involve the allocation of exclusive territories, it clearly points in that direction. There are cases, however, in which the division of markets has been complete.

CONSUMER CREDIT REPORTING

The consumer credit reporting business operated, for a time, under a comprehensive market sharing plan. The National Retail Credit Association had some 20,000 members, some 1,300 of them credit reporting agencies and some 18,000 of them credit granting firms. The member agencies collected information from the member firms and sold consumer credit reports. The plan devised by the association distributed the markets of the United States among the member agencies by dividing the country into regions and assigning the regions as exclusive reporting territories to these concerns. Each member firm agreed not to furnish information to any agency other than the one

[5] Ibid., p. 2345.
[6] Federal Trade Commission, Open-Price Trade Associations, p. 285.
[7] Ibid., pp. 285–288.

with which it was affiliated and to which its region was assigned. Each member agency agreed not to gather information or make reports in another region except through the agency to which that region was assigned. The association was enjoined from the further employment of this plan in a consent decree which it accepted in 1933.[8]

WINDOW GLASS

The manufacturers and distributors of window glass, acting through the Window Glass Manufacturers' Association and the National Glass Distributors' Association, adopted a market sharing scheme in 1935. They set up an arbitrary classification of customers, defining as quantity buyers those who purchased from 3,000 to 5,000 fifty-foot boxes of glass for stock each year and as carlot buyers those who purchased in carlots but in smaller quantities. The manufacturers' association made the final decision as to the classification of individual buyers. Manufacturers published price lists only for quantity buyers and sold only to them. The distributors' association published price lists for carlot and other buyers who were required to make their purchases from firms designated as quantity buyers. Each quantity buyer was assigned a restricted territory and forbidden to sell beyond its boundaries. Since his designation carried with it a special discount of 7½ percent which would be denied him if he were not so classified, he had a strong incentive to confine his sales to the area assigned to him. The Federal Trade Commission ordered the associations to cease and desist from these activities in a decision issued on October 30, 1937.[9]

BUILDING MATERIALS

The National Federation of Builders Supply Associations, organized in 1933 as a successor to the Building Material Dealers Alliance, undertook to confine the distribution of building materials to "recognized" dealers. In connection with this program it appointed a number of committees to cooperate with affiliated associations of dealers in as many different building materials in working out plans for the control of distribution in each of these fields. The committee representing the distributors of cement recommended, among other things, that their associations should be permitted to assign market territories to dealers and that manufacturers should not be permitted to ship cement for dealers to construction jobs located outside of the territories which were prescribed. The Federation adopted these recommendations in 1936. The Federal Trade Commission issued a cease and desist order against the program as a whole on December 30, 1937.[10]

TEXTILE REFINISHING

Market sharing in the textile refinishing industry has taken the form of allocation of customers. Thirty firms, including substantially all of those engaged in the business of examining and sponging cloth for manufacturers of clothing in the New York market, were combined in the Textile Refinishers Association. Acting through the

[8] *U. S.* v. *National Retail Credit Association*, District Court of the United States, Eastern District of Missouri, Equity No. 10420, petition, filed June 12, 1933.
[9] Hearings before the Temporary National Economic Committee, Part 5–A, p. 2330.
[10] Ibid., pp. 2331–2333.

association they not only agreed upon uniform prices, terms, and conditions of sale, but also assigned the business of each manufacturer to a single member of the association and compelled the manufacturer to have his work done by the member to whom he was assigned. This arrangement was enforced, in part, through the cooperation of the Textile Examiners and Finishers Union, which refused at times to examine and sponge a manufacturer's cloth, and the Cloth Sponging Drivers and Helpers Union, which refused to transport it. Its continuation was forbidden by a consent decree which was accepted by the association and its members in 1936.[11]

ALLOCATION OF PRODUCTION AND SALES THROUGH TRADE ASSOCIATIONS

The distribution of business among association members has been accomplished not only by allocating markets and customers, but also by assigning fixed shares in production and sales. In some cases, this has taken the form of a reduction in output based upon productive capacity or upon the volume of goods sold in a previous year. In others, it has involved the adoption of an elaborate system of quotas.

PLANT RESTRICTION

Production has been allocated through concerted restriction of output by producers of canned peas, copper, cotton yarn, cotton textiles, window glass, and wooden containers. For some time prior to 1923, the producers of window glass, acting through the National Window Glass Manufacturers' Association, permitted none of their plants to operate for more than 6 months in a year, permitted no more than half of them to operate at any one time, and fixed the dates between which such operations might be carried on.[12] During 1925 and 1926 the Southern Yarn Spinners' Association issued frequent bulletins in which it urged its members to confine production to the volume required to fill orders and to restrict their output as orders declined. The resulting curtailment took the form of a complete suspension of operations during 1 or more days in each week.[13] In 1927 the Wisconsin Canners' Association succeeded in obtaining a reduction in the acreage planted by the canners of peas. The program was apparently enforced, through the cooperation of the Wisconsin Bankers' Association, by persuading bankers to withhold sufficient credit from the canners to compel them to curtail their acreage by the amount desired.[14] The producers of copper, meeting under the auspices of the Copper Institute, pledged themselves, in 1930, to cut output by 16 percent, and announced in 1931 that production should be limited to 26½ percent of capacity.[15] In 1930 the Cotton Textile Institute adopted the so-called 55–50 plan, under which three-fourths of the firms in the industry agreed to limit day shifts to 55 and night shifts to 50 hours per week. It further discouraged full-time operation by persuading four-fifths of the firms to discontinue the employment of women and children at

[11] *U. S.* v. *Textile Refinishers Association, Inc., et al.,* District Court of the United States, Southern District of New York, Equity No. 83–26, petition, filed May 1, 1936.
[12] Watkins, op. cit., pp. 160–161.
[13] Federal Trade Commission, Open-Price Trade Associations, pp. 280–282.
[14] Ibid., pp. 282–283.
[15] Temporary National Economic Committee, Hearings, Part 25, pp. 13211, 13479–13485.

night. In 1932 the Institute promoted curtailment programs in several branches of the industry. Print cloth mills, for example, undertook to reduce their output by amounts which ranged from 10 percent to 50 percent.[16] From 1933 to 1935, hours of operation were restricted by the code approved for the industry by the N. R. A. And again in 1939, print cloth mills were said to be operating under a "Print Cloth Curtailment Program" administered by a "Curtailment Program Committee," which required them to restrict production by 25 percent and forbade them, without permission, to sell from stocks on hand.[17] In an order issued in 1940, the Federal Trade Commission found that 25 firms, members of the Standard Container Manufacturers' Association, producing all of the baskets, boxes, crates, hampers, and other wooden containers for fruits and vegetables made in the States of Florida and Georgia, had agreed, among other things, to curtail the production of such containers and had enforced this agreement by requiring each member to check on the output of some other member and report on his compliance with the scheme.[18] In each of these cases, it appears that the several firms in an industry have, in effect, been allotted shares in its market on the basis of their past production or capacity. In other cases, definite quotas have been assigned.

PRODUCTION QUOTAS

A quota system controlled the oil refining industry in California until it was outlawed by a consent decree in 1930.[19] A similar system, administered by the Pacific Coast Oil Cartel, was set up under an N. R. A. code in 1933 and maintained until the Schechter decision in 1935. It is now charged that a third such plan was inaugurated in 1936. As set forth in an indictment returned in this case,[20] the facts are these: Seven major companies, members of the Fair Practices Association, accounted for 70 percent of the refining and 85 percent of the marketing of gasoline in California. Thirty independents, all but three of them members of the Independent Refiners' Association of California, accounted for 30 percent of the refining and 15 percent of the marketing. Under the leadership of the majors, the two groups cooperated in establishing and maintaining a common price. Each of the independents sold part or all of his output to the I. R. A. The majors, in turn, purchased large quantities of gasoline from the I. R. A. at "arbitrary, high, and non-competitive prices," thus deterring the independents from underselling them in the open market. The two associations surveyed the prices posted by retailers and disciplined price cutters by threats to suspend and by actual suspension of deliveries. Members of the associations shared their customers, refusing to supply gasoline to dealers who were being served or had been cut off by others unless permitted to do so by the latter concerns. The I. R. A. assigned to its members production quotas, called "allowables," sent them monthly estimates of consumption, and advised each of them as to the quantity which his "allowable" would permit him

[16] Whitney, op. cit., pp. 70–73.
[17] *U. S.* v. *Joseph E. Sirrine, et al.*, op. cit.
[18] Federal Trade Commission, Order, Docket 3289.
[19] *U. S.* v. *Standard Oil Co. of California*, District Court of the United States, Northern District of California, Consent Decree, September 15, 1930.
[20] *U. S.* v. *General Petroleum Corporation of California et al.*, District Court of the United States, Southern District of California, Indictment, November 14, 1939.

to produce. The percentages employed were substantially the same as those that had obtained under the N. R. A. code. The quota system supplemented the program of price control by preventing any expansion of output which would have operated to depress the established price. In July and August 1940, most of the defendants in this case pleaded *nolo contendere* and fines aggregating $67,500 were imposed.

The National Elevator Manufacturing Industry, a trade association whose members control 98 percent of the elevator business in the United States, fixed prices and terms of sale, assigned production quotas, required its members to report on prices and production, and compelled them, by threats and penalties, to maintain the established prices and remain within the prescribed quotas. The Otis Elevator Co., one of the largest firms in the industry, distributed detailed price lists, called "Otis white sheets," to other manufacturers through the secretary of the association, and sent out notices of contemplated price changes through the same channel. The association assigned to its members production quotas based upon the share of the total business handled by each of them in the years from 1928 through 1933 and adopted a rule which bound them to refuse to accept orders in excess of these shares. It required them to submit reports covering bids made by them, contracts awarded to them, prices charged on each sale, and quantities produced and sold. It compelled them to adhere to the established prices and quotas by threatening to oust them from the association and to have them sued for infringement of patent rights if they failed to do so. On October 30, 1939, the Supreme Court of the State of New York issued a permanent injunction against the continuance of the practices described.[21] The Stanley Elevator Co., one of the smaller firms in the industry, subsequently filed a complaint against the Otis Co., the Westinghouse Electric Elevator Co., the N. E. M. I., and their officers, charging that the two larger concerns had dominated the association, that they had operated under an agreement for the cross-licensing of patents and had included in licenses granted to other manufacturers restrictions on production identical with those imposed by the association's system of quotas, that the quota assigned to the Stanley Co. by the association had confined it to eight-tenths of 1 percent of the industry's output, permitting it to sell only 20 elevators per year, a number much smaller than its normal volume of business, and that Otis and Westinghouse had brought 3 patent infringement suits against Stanley and a fourth against one of its customers for the purpose of punishing the company for producing more than its quota allowed. The complaint asked for an injunction against the patent suits and for triple damages under the Sherman and Clayton Acts.[22]

MANAGEMENT ENGINEERING COMPANIES

In an increasing number of cases, in recent years, the activities of trade associations have been administered by firms of management engineers. Maintenance of uniform prices and allocation of production have sometimes been among the policies promoted by such con-

[21] *People of the State of New York* v. *National Elevator Manufacturing Industry, Inc., et al.*, Special Term, Part II, Supreme Court, State of New York, Decree (1939).

[22] *Stanley Elevator Co., Inc.* v. *Otis Elevator Co. et. al.*, District Court of the United States, District of New Jersey, Civil Action No. 891, Complaint.

cerns. The methods employed in these instances are described by the Department of Justice in the following words: [23]

In the hypothetical case which we are using to illustrate the general pattern, the engineering firm selected by the group desiring to eliminate competition conducts a militant campaign among the scattered manufacturers to organize them into trade associations. In such campaigns the benefits which come from higher prices and the discouragement of competition are usually emphasized. The firms who desire to maintain their own price policies are then subjected to increasing pressure. Finally, when a majority of the units are organized the engineering firm provides the permanent personnel which operates the trade association. Through that control of the personnel the whole industry is controlled.

That control is exercised in various ways. The Department's preliminary investigation indicates that certain trade associations not only disseminate production statistics but take steps to see that their members produce no more of the total supply than those statistics indicate has been their proportionate share. These steps range from mass pressure on dissenting individuals during meetings of the association to actual boycott and retaliation. The fear of retaliation is always present because of various methods that may be employed sub rosa by a small group having permanent management control. Under such circumstances veiled threats are usually all that is required. The Department has evidence that where threats are not effective more direct methods are often used.

Another device is tied up with cost accounting methods. Advice on accountancy is used to establish standard amounts to be charged as an expense for each operation regardless of its actual cost. Thus, a fixed and uniform differential for profit is established and maintained by the careful policing of association personnel.

Sometimes these firms also enter into direct agreements for the restriction of productive machinery.

Another device is the creation of a fund among a small group to buy competing plants which are troublesome competitors. Upon acquisition, such plants are often shut down and dismantled. * * *

There are many variations to the pattern which has been described above. Moreover, there is evidence that new associations of this general character have been formed even during the progress of the preliminary investigation by the Department. The danger that inheres in this type of combination is obvious. * * *

Conspicuous among the concerns engaged in the business of organizing, advising, directing, and managing trade associations is the Stevenson Corporation of New York. This firm, operating under the name of Stevenson, Jordan & Harrison, administers the affairs of some 30 national associations, shaping their policies, providing their executives from among its own employees, and exercising detailed and continuous supervision over their activities. Its approach toward the problems of a trade is suggested by a passage from the writings of its president and principal owner, Mr. Charles R. Stevenson: [24]

What are these fetishes before which we are all bowing down, these idols of brass and stone into whose fiery maws are being thrown the peace, security, and happiness of all our people? First, the belief that competition is the life of trade. Second, the belief that the individual has the fundamental right to engage in trade in whatever form or manner he desires. * * *

Let us suppose that we are able to overcome these fetishes and that we are willing to admit the advantages which would come from controlled production and the adjustment of hours and wages of labor to the production which we require. How could we go about handling the thing from a practical standpoint?

First of all, then, we must change our laws regulating business, so that each industry will be given the right to form a firm organization and to govern and control itself. This organization of the industry must carry with it compulsory membership on the part of every firm engaged in the industry and must give to a sufficiently large majority, let us say 66⅔ percent of the capital invested in the

[23] Department of Justice, Statement of Grounds for Action, Investigation of Management Engineering Companies, Control of Trade Associations, June 27, 1939.

[24] Charles R. Stevenson, The Way Out (Stevenson, Jordan & Harrison, New York), pp. 25, 30–31.

industry, the right to control the operations of the industry and to compel the adherence of the minority to the will of the majority. Industry, when so organized, must have the right to schedule and regulate production, to allot production between plants and territories and to determine a fair price at which the products of the industry will be offered to the public. New capital desiring to engage in an industry in which the capacity is in excess of production schedules must first secure a certificate of convenience and necessity.

Writing again in the fall of 1939, Mr. Stevenson argued that "agreements which are in the interest of the industry *and therefore of the public*, should be binding upon non-signers." [25] Producers should be permitted to "allocate production fairly "[26] and to fix prices "which would assure a fair margin of profit above cost." [27] The programs adopted by the National Container Association, the American Veneer Package Association, and the Kraft Paper Association under Stevenson management reveal the practical application of this point of view.

The 110 members of the National Container Association and the 165 members of 12 constituent regional associations are engaged in the business of manufacturing and distributing shipping containers and other products made from corrugated and solid fiber board. The Stevenson firm, employed to manage the affairs of these associations in 1932, introduced an elaborate plan of price and production control. It developed a "Basic Unit Plan" under which the numerous varieties of the industry's products were reduced to comparable elements. It prepared and circulated "Industry Estimating Manuals" containing "formulas, factors, and differentials" which were to be used by members in computing their prices. It urged members to ignore their actual costs and employ the arbitrary estimates set forth in these manuals. It enforced compliance through a plan of "Invoice or Order Analysis" which required each member to submit to his regional association copies of invoices or orders giving complete details on every sale. Association officials employed by the Stevenson firm kept records to insure the submission of this information, followed up members who failed to submit it, checked the figures reported, and applied the "formulas, factors, and differentials" contained in the manuals to members' sales in order to determine whether they were adhering to them in fixing their charges. They also prepared and circulated reports and charts which compared each member's basic unit price with the average for the industry and sometimes distributed lists of invoices on which the prices fell below the average. These materials were discussed at frequent meetings of the regional associations and members with prices below the average were urged to raise them. Traveling auditors and engineers were sent out by the Stevenson firm to verify the information submitted, to call attention to prices below the average, and to promote the use of the "Industry Estimating Manuals." The program also involved the allocation of customers and the assignment of fixed production shares. Members filed with the regional associations memoranda stating that they had obtained contracts or orders from certain buyers. Association secretaries thereupon disseminated the information with the understanding that other members would not compete for this business. Production was allocated under a plan which was variously designated as "Prorationing of Business," "Equitable Sharing of Avail-

[25] Charles R. Stevenson, "To Amend the Law of Supply and Demand," *Advanced Management*, Fall, 1939, pp. 115–121, at p. 120. [Italics mine.]
[26] Ibid., p. 121.
[27] Ibid., p. 119.

able Business," and "Live and Let Live." The Stevenson firm divided the country into zones and made surveys of the volume of business transacted by each member in each zone during a "normal" or "base" period of 3 years. On the basis of these surveys it assigned members definite percentages of the business in their zones. Members agreed that they would accept and adhere to their quotas and supplied copies of invoices and other reports to the regional associations in order to enable officials to determine whether they were doing so. Association employees prepared bi-weekly reports and charts showing each member's share in the sales made during the current period and during the past year and comparing it with his quota. These materials were discussed at association meetings and members who had exceeded their quotas were urged to curtail production. The reports, accounts, and records of members were verified and production in excess of quotas brought to their attention by the traveling representatives of the Stevenson concern.[28] A Government suit against the associations, their members, the management firm, and their officers was terminated by a consent decree on April 23, 1940.

The producers of veneer containers used in packaging fruits and vegetables, members of the American Veneer Package Association, and four regional associations, also adopted the Stevenson "live and let live" plan. They divided the country into zones and sold at identical delivered prices to all points within each zone. They agreed upon uniform price lists, conditions, and terms of sale, customer classifications and class discounts, and filed current and future prices with zone secretaries employed by the Stevenson concern. These officials checked invoices and applied pressure where sales were made at prices below those filed or discounts allowed in excess of those authorized. The zone secretaries exchanged price reports through the national association and members who made sales in zones other than their own conformed to the prices established there. The Stevenson firm conducted surveys of the business done in each zone and furnished a statistical report to each member showing his share of the total during a period of 2 years. Thereafter, it issued monthly reports showing the current share of each concern. Members were expected to keep current operations within the limits set by their original shares.[29] Those who sought larger allotments were required to purchase the shares belonging to others. The zone secretaries approached those who had produced more than the quotas allowed and urged them to curtail their output. The Federal Trade Commission issued a cease and desist order against the five associa-

[28] *U. S.* v. *National Container Association et al.*, District Court of the United States, Southern District of New York, Indictment, August 9, 1939.

[29] Counsel for the Stevenson firm said: "By means of surveys made for the various groups, the total amount of business in each group was disclosed over a period of years, and likewise the participation in such business by each individual member of the group for that period. Thus there was developed a historical volume relationship of each respondent member of each group to the total business of the group. It was pointed out to each and every member * * * that any violent dislocation of this volume relationship could only be accomplished insofar as current business was concerned by adversely effecting (sic) the volume relationship of other members of the group. The inevitable result would be, it was pointed out, the institution of retaliatory measures to gain back lost volume with a concomitant spiral of declining prices resulting in a demoralized market and sales at unprofitable levels. In other words, each member was asked to consider the consequences upon his own business of a course of action which would attempt to gain and hold a proportion of current business unwarranted by past volume relationship."—*In the Matter of American Veneer Package Association, Inc., et al.*, Federal Trade Commission Docket No. 3556, Brief for the Stevenson Corporation et al., p. 4.

tions, their members, the management firm, and their officers on March 15, 1940.[30]

Stevenson, Jordan & Harrison also administer the affairs of the Kraft Paper Association whose 35 members produce 90 percent of the Nation's output of kraft paper. An indictment brought against these parties in the summer of 1939 charges that the program adopted by this industry involved the determination and assignment of production quotas, the circulation of weekly forecasts of estimated demand, the collection of weekly reports on production, inventories, shipments, orders, and sales, the distribution of weekly statistical reports covering this information, the discussion of prices and production at association meetings, and the periodic examination of members' books and records by field auditors and association representatives.[31]

It is also charged, in a complaint against various members of the glass container and glass container machinery industries filed by the Department of Justice on December 11, 1939, that a similar program has been administered for the Glass Container Association since 1928 by the Stevenson firm.[32]

QUOTA AND PENALTY SYSTEMS

Trade association quota systems have seldom been enforced by the imposition of pecuniary penalties. Members of the American Institute of Steel Construction, some 200 firms controlling 85 to 90 percent of the business of structural steel fabrication, voted in 1931 to refer to the Institute's board of directors a plan which was designed to afford each firm a "reasonable ratio" of the available business by assigning quotas based upon productive capacity and by collecting fines in the form of extra dues from firms producing in excess of the quota limits,[33] but it does not appear that this plan was ever put into operation. For some time before 1938, the Coast Counties Lumbermen's Club of California allocated markets among its members and imposed penalties amounting to 10 percent of the price on goods sold outside of the territories assigned. The club also established sales quotas, but the penalties were not applied to sales made in excess of the quota limits.[34]

The only trade association production quota and penalty system on record is that administered by the California Rice Industry between 1935 and 1938. California's eight rice millers, all members of this association, agreed upon uniform buying prices for paddy, uniform selling prices for processed rice, and uniform terms of sale, quantity discounts, and brokerage fees. The association established a formula for the computation of individual prices and announced a basic "industry price" on Tuesday of each week. Association accountants checked members' invoices and records in order to determine whether

[30] Federal Trade Commission, Order, Docket 3556.
[31] *U. S.* v. *Kraft Paper Association et al.*, District Court of the United States, Southern District of New York, Indictment, July 20, 1939.
[32] *U. S.* v. *Hartford-Empire Company et al.*, District Court of the United States, Northern District of Ohio, Western Division, Complaint, December 11, 1939.
[33] Hearings on the Establishment of a National Economic Council before a subcommittee of the Senate Committee on Manufactures, 1931, p. 468.
[34] Hearings before the Temporary National Economic Committee, Part 5–A, pp. 2343–2344.

they were adhering to the program and made monthly reports which were discussed at association meetings. The group also assigned a monthly processing quota to each miller and required him to pay into a "millers' trust fund" 10 cents for every 100-pound bag of rice processed within his quota and 20 cents for every bag processed outside his quota. After association expenses were paid, the remaining money was distributed among the participants, penalties being deducted from the shares going to those who had violated any of the terms of the agreement. The program was terminated by a cease and desist order issued by the Federal Trade Commission on March 26, 1928.[35]

TRADE ASSOCIATION BOYCOTTS

Trade associations have frequently undertaken to enforce their programs by organizing boycotts or by threatening to do so. They have sought to confine the business of a trade to association members, to force non-member competitors to join the association or to withdraw from the field, and to compel members and non-members alike to adhere to association rules. To these ends, loyal association members have applied concerted pressure, directly by refusing to deal with recalcitrant members and non-member competitors, and indirectly by refusing to buy from suppliers who have sold to them or to sell to purchasers who have bought from them. In the same way, association members have sought to compel purchasers for resale to maintain fixed resale prices by collectively refusing to sell to those who have failed to do so. Associations have thus extended their control beyond the boundaries of their own membership and have forced outsiders to conform to their policies by threatening to deprive them of markets and supplies.

In the wholesale and retail trades, associations have concerned themselves largely with the preservation of the traditional channels of distribution. Associations of wholesalers have sought to prevent manufacturers from selling to other types of distributors, to retailers, or directly to consumers. Associations of independent retailers have sought to prevent manufacturers and wholesalers from selling to other types of distributors or to consumers. Members of these associations have adopted definitions of "recognized" or "legitimate" dealers, have issued "white lists" of approved dealers and "black lists" of disapproved dealers, have required manufacturers or wholesalers to grant differential discounts, or to confine their sales to firms who fell within the approved categories, and have refused to buy from those who failed to do so. National and regional associations found to have resorted to such practices at some time during the past 20 years, and associations recently charged with doing so, include those whose members were engaged in the distribution of automobile parts and accessories,[36] building materials,[37] candy,[38] coal,[39] dry goods,[40] flowers,[41] glassware,[42] gro-

[35] Ibid., pp. 2340–2342.
[36] Federal Trade Commission Order, Docket 2382; Complaint, Docket 2942.
[37] Federal Trade Commission Orders, Dockets 2191, 2857.
[38] Federal Antitrust Laws, cases 326, 330, 331, 350, 360; Federal Trade Commission Orders, Dockets 1364, 2292, 2403, 2613.
[39] Federal Trade Commission Orders, Dockets 1098, 1118, 1145.
[40] Federal Trade Commission Complaint, Docket 3751.
[41] F. A. L., case 307.
[42] Federal Trade Commission Complaint, Docket 3861.

ceries,[43] hardware,[44] harness and saddlery goods,[45] hot air furnaces,[46] jewelry,[47] liquor,[48] lumber,[49] paper,[50] rubber heels and soles,[51] shoe findings,[52] sponges,[53] and surgical instruments.[54] By boycotts and by threats of boycotts these groups have diverted the traffic in such goods from the routes it might otherwise have followed and, in the phrase of the Federal Trade Commission,[55] have taken toll on it as it has passed.

Association members in other fields have attempted to monopolize their respective trades by employing similar tactics. Plumbing supplies jobbers and plumbing contractors have been charged with conspiring to maintain a "restricted system of distribution" under which goods were to move only from manufacturers, through the jobbers, to the contractors, who sold and installed them, the jobbers confining their purchases to manufacturers who sold only to them, the contractors confining their purchases to jobbers who sold only to them and refusing to install equipment which had not arrived by the designated route.[56] Cigar manufacturers have refused to buy cigar boxes,[57] cap manufacturers have refused to buy visors and trimming,[58] and laundry owners have refused to buy machinery and supplies [59] from firms who have sold to competitors who were not approved by their respective associations. Hat frame manufacturers [60] and peanut shellers and cleaners [61] have refused to deal with competitors who have failed to adhere to association rules, and hardwood lumber producers have been charged with similar activity.[62] Millinery manufacturers have refused to sell to retailers who have handled copies of styles which they claim to have originated,[63] and the manufacturers of fireworks,[64] power cable and wire,[65] and snow fence,[66] among others, have refused to sell to distributors who have failed to maintain fixed resale prices. In all of these cases, association members have employed the boycott as a means of forcing outsiders to conform to programs which they have adopted in their own interest.

CARTELS IN THE AMERICAN MARKET

With the single exception of the Pacific Coast Oil Cartel, the organizations whose activities are here described have called themselves

[43] F. A. L., cases 283, 284, 291; Federal Trade Commission Orders, Dockets 501, 579, 893, 990, 1085, 1196, 1232, 1343, 2677.
[44] F. A. L., case 320; Federal Trade Commission Order, Docket 603.
[45] Federal Trade Commission Order, Docket 16.
[46] Federal Trade Commission Order, Docket 2931.
[47] F. A. L., cases 312, 317.
[48] Federal Trade Commission Complaint, Docket 4093.
[49] Federal Trade Commission Order, Docket 2857; *U. S.* v. *National Association of Commission Lumber Salesmen, et al.*, District Court of the United States, Eastern District of Louisiana, New Orleans Division, Consent Decree, February 21, 1940.
[50] Federal Trade Commission Order, Docket 934.
[51] Federal Trade Commission Order, Docket 2802.
[52] F. A. L., case 324.
[53] Federal Trade Commission Order, Docket 3025.
[54] Federal Trade Commission Order, Docket 2409.
[55] Federal Trade Commission, Open-Price Trade Associations, p. 303.
[56] *U. S.* v. *Central Supply Association, et al.*, District Court of the United States, Northern District of Ohio, Indictment, March 29, 1940.
[57] Federal Trade Commission Order, Docket 709.
[58] Federal Trade Commission Order, Docket 2530.
[59] Federal Trade Commission Order, Docket 1954.
[60] F. A. L., case 322.
[61] F. A. L., case 294.
[62] Federal Trade Commission Complaint, Docket 3418.
[63] Federal Trade Commission Order, Docket 2812.
[64] Federal Trade Commission Order, Docket 3309.
[65] Federal Trade Commission Order, Docket 2565.
[66] Federal Trade Commission Order, Docket 3305.

associations, institutes, industries, or clubs, but not cartels. The activities themselves, however, are identical with those in which cartels have been engaged. Almost every trade association, like the European term-fixing cartel, attempts to regulate the terms of sale. Many associations, like price-fixing cartels, attempt to control the prices at which goods are sold. Some associations, like zone cartels and customer-preservation cartels, allocate markets and customers among their members. Others, like plant-restriction cartels, seek curtailment of output on the basis of past production or capacity. Still others, like fixed-production-share cartels and fixed-marketing-share cartels, assign each of their members a quota in the total volume of production or sales. There have even been cases in which a common selling agency, like the European syndicate, has been employed. Such agencies made their appearance, at some time between 1920 and 1940, among the canners of sardines and the composers and publishers of copyrighted music, among tanners, and among the producers of bituminous coal, candy sticks, charcoal, concrete pipe, and water-marked and white glazed paper. It is charged in a complaint issued by the Federal Trade Commission that a similar arrangement has existed among the producers of lecithin, an organic chemical used in foods and other products.[67] In many cases, too, associations have resorted to the boycott, a weapon which has been used in the same way and for the same purposes by the European cartels. The parallel that may be drawn between trade associations and cartel activities lends support to the statement that was made by President Roosevelt in the message that led to the creation of the Temporary National Economic Committee. "Private enterprise," he said, "is ceasing to be free enterprise and is becoming a cluster of private collectivisms; masking itself as a system of free enterprise after the American model, it is in fact becoming a concealed cartel system after the European model." [68]

THE N. R. A. CODES

If the program adopted by a trade association is to be effective, adherence to its provisions must be general in the trade. Where one or two large firms dominate an association, fear of retaliation may keep their smaller competitors in line. Where members are more nearly equal in size and power, adherence must be secured either by persuasion or by coercion. If all of the firms in a trade are like-minded, persuasion may suffice. But if a minority refuses to cooperate, some measure of compulsion is required. Many such measures are at hand. Members may be granted restrictive patent licenses and threatened with revocation and infringement suits. They may be asked to enter into contracts which provide for the payment of damages in the event of a violation of their terms. They may be required to make deposits against which penalties can be imposed. They may be threatened with boycotts which would deprive them of markets and supplies. They may be subjected to pressure by persuading outsiders with whom they deal to cooperate in the enforcement of the plan. But each of these measures has its limitations. Patents may either be lacking or of insufficient importance to enable

[67] Cf. supra, pp. 235–240.
[68] Hearings before the Temporary National Economic Committee, Part 1, p. 186.

their holders to exercise effective control. Contracts affecting prices and production may not be upheld by the courts. Recalcitrant minorities may refuse either to make deposits or to participate in boycotts. Outsiders may be unwilling to act as enforcement agencies. If general adherence to association programs is to be insured, they must be enacted into law and enforced by the State. This, in effect, is what was attempted under the National Recovery Administration in the years from 1933 to 1935.

TRADE ASSOCIATIONS AND THE N. R. A.

The "codes of fair competition" which governed American industry during the life of the N. R. A. were exempt from the prohibitions of the anti-trust laws. Violation of any of their provisions was made an unfair method of competition subject to action by the Federal Trade Commission, and a misdemeanor punishable by a fine of $500 for every day in which it occurred. These codes were originated, almost without exception, by trade associations. The code authorities which were set up to administer them were largely composed of or selected by trade associations. The personnel and the policies of these authorities were controlled by trade associations. In three cases out of four, the code authority secretary and the trade association secretary bore the same name and did business at the same address.[69] Code administration was usually financed by mandatory assessments imposed upon each of the firms in an industry. In the garment trades, collection of the levy was assured by the requirement that a label purchased from the code authority must be sewed in every garment sold. The program thus involved a virtual delegation to trade associations of the powers of government, including in many cases the power to tax.

The N. R. A. undertook, in the words of its own declaration of policy, "to build up and strengthen trade associations throughout all commerce and industry."[70] It conferred new powers and immunities on strong associations, invigorated weak associations, aroused moribund associations, consolidated small associations, and called some eight hundred new associations into life. It sought to employ these agencies as instruments in the promotion of industrial recovery. But many of the provisions which it permitted them to write into their codes were ill designed to achieve this end.

CONTROL OF TERMS OF SALE

The N. R. A. approved 557 basic codes, 189 supplementary codes, 109 divisional codes, and 19 joint N. R. A.-A. A. A. codes, a grand total of 874. All of these codes contained provisions which governed the terms and conditions of sale, subjecting to detailed regulation in various combinations such matters as quotation, bid, order, contract, and invoice forms, bidding and awarding procedures, customer classifications, trade, quantity, and cash discounts, bill datings, credit practices, installment sales, deferred payments, interest charges, guaranties of quality, guaranties against price declines, long-term

[69] Cf. Code-Sponsoring Trade Associations, Bureau of Foreign and Domestic Commerce, Market Research Series, No. 4 (1935).
[70] N. R. A., Bulletin No. 7, January 22, 1934

contracts, options, time and form of payments, returns of merchandise, sales on consignment, sales on trial or approval, cancellation of contracts, trade-in allowances, advertising allowances, supplementary services, combination sales, rebates, premiums, free deals, containers, coupons, samples, prizes, absorption of freight, delivery of better qualities or larger quantities than those specified, sale of seconds and of used, damaged, rebuilt, overhauled, obsolete, and discontinued goods, the payment of fees and commissions, and the maintenance of resale prices. A mere listing of the categories of regulations involved in the various codes covers more than fifty manuscript pages of single-spaced typewritten material.[71] In general, these provisions were designed to affect the allocation of business between trades and among the firms within a trade and to prevent the granting of any indirect concession which would operate to reduce a price.

CONTROL OF PRICES

Of the first 677 codes, 560 contained some provision for the direct or indirect control of price. Of these, 361 provided for the establishment of standard costing systems; 403 prohibited sales below "cost"; 352 forbade members to sell below their individual "costs"; and 51 forbade them to sell below some average of the whole industry's "costs". Thirty-nine standard costing systems were approved by the N. R. A. In many cases, the adoption of a common formula for use in the determination of individual "costs" led to the establishment of an arbitrary minimum price. In the limestone industry, the code authority prescribed itemized "costs" for successive operations that added up, in every case, to a uniform total.[72] In the trucking industry, the authority drew up a schedule of "costs" in dollars and cents and charged truckers whose rates fell below the resulting figures with violation of the code.[73] So, too, with the procedure followed in the determination of average "costs." In the commercial relief printing industry, the code authority collected data from 200-odd printers among some 17,000 and issued "cost determination schedules" in the form of detailed price catalogs, dating from pre-code days, which set forth minimum prices rather than costs.[74] In the paint, varnish, and lacquer industry, the authority sent questionnaires to 160 among some 2,000 firms, rejected 34 of the 74 replies, and employed the 40 remaining schedules (which included no data on certain of the industry's products and no returns from certain of its more important members) in arriving at figures which were said to represent "the lowest reasonable cost of manufacturers, large and small, throughout the industry" and were to be "used as the minimum processing cost by all members of the industry."[75] In some cases, the code provided not only for uniform "costs," but also for a uniform mark-up. Thus, the code of the crushed stone, sand and gravel, and slag industry[76] forbade produc-

[71] N. R. A., Division of Review, Work Materials, No. 2, Summary of Analysis of Certain Trade Practice Provisions in the N. R. A. Codes (mimeo.), secs. I–III, VII–VIII.
[72] N. R. A., Advisory Council Decisions (mimeo.), vol. 4, pp. 279–281.
[73] Ibid., pp. 313–316.
[74] Ibid., pp. 358–376.
[75] Ibid., vol. 3, pp. 255–260; Code for the Paint, Varnish, and Lacquer Manufacturing Industry, art. 22, sec. 4.
[76] Art. VII, sec. 2 (d).

ers to sell below "prime plant cost" plus 10 percent; that of the water-proofing, damp-proofing caulking compounds and concrete floor treatments industry[77] forbade them to sell below "allowable cost" plus a "reasonable" percentage to be determined by the code authority; and that of the structural clay products industry[78] forbade them to sell below "direct factory cost" plus an item called "weighted average indirect allowable cost," this item being stated by the code authority in terms of dollars at a figure which was uniform throughout the industry.

Some 200 codes provided for the establishment of minimum prices in the event of an "emergency." When a code authority found that "destructive price cutting" had created an "emergency," is was empowered to determine the "lowest reasonable costs" of producing the goods involved and to fix prices which would cover these costs. These concepts were never clearly defined. "An emergency", it was said, "is something that is declared by a code authority." According to spokesmen for the retail solid fuel trade, "We have always had an emergency in retail solid fuel." The code for this trade[79] provided for the declaration of an emergency "Whenever, upon complaint or upon its own initiative without complaint, the National Code Authority is of the opinion that an emergency exists * * *." The code became effective on February 26, 1934; the authority declared an "emergency" on March 1, 1934. "Emergencies" were also declared among manufacturers of agricultural insecticides and fungicides, cast iron soil pipe, and mayonnaise and salad dressing, and among dealers in ice, lumber and timber products, tires, tobacco, and waste paper. Such declarations afforded members of these trades an opportunity to arrive at "cost determinations" which could be used to justify high minimum prices. The history of the N. R. A. gives evidence that they made the most of this opportunity.[80]

A few codes granted to code authorities the power to establish minimum prices in the absence of an "emergency" and, in some cases, without reference to "costs." The code for the wood-cased lead pencil industry.[81] forbade manufacturers to sell pencils at a price "less than the fair minimum price thereof as ascertained by the code authority * * *." The code for the bituminous coal industry[82] stated that—

> The selling of coal under a fair market price * * * is hereby declared to be * * * in violation of this code * * *. The fair market price of coal * * * shall be the minimum prices * * * which may be established * * * by a marketing agency or * * * by the respective code authorities * * *. The term "marketing agency" shall include any trade association of coal producers. * * *

Similar provisions appeared in the codes for the lumber and timber, petroleum, cigar container, cigar manufacturing, motor bus, domestic freight forwarding, inland water carrier, fur dressing and dyeing, and cleaning and dyeing industries, and in those of certain wholesale and retail trades. Through one or another of these methods, mini-

[77] Art, VII (2).
[78] Art. VI (b).
[79] Art. V, sec. 4.
[80] Investigation of the National Recovery Administration, Hearings before the Committee on Finance, U. S. Senate, 74th Cong., 1st sess., Part 4, pp. 868–875. 881–883.
[81] Art. X, sec. 4.
[82] Art. VI, secs. 1 and 2.

mum prices became legally effective in 93 different industries and practically operative in many more.

PRICE REPORTING SYSTEMS

Four hundred and twenty-two codes provided for the establishment of open-price reporting systems. Most of these systems were of a character that would probably have been outlawed under the earlier decisions of the Supreme Court. One hundred and sixty-one of them gave no information to buyers; most of them required the filing of identified price lists; most of them required sellers to adhere to the prices they had filed until new filings became effective, and 297 of them required a waiting period before a new filing was permitted to take effect. In many cases the reporting system was employed as a means of enforcing a code provision against sales below a "cost"-covering, "emergency," or minimum price. In a few cases, the system itself facilitated the establishment of a common price. The code for the iron and steel industry [83] provided that—

> The board of directors shall have the power * * * to investigate any base price for any product * * * filed * * * by any member of the code * * *. If the board of directors, after such investigation, shall determine that such base price is an unfair base price for such product * * * the board of directors may require the member of the code * * * to file a new list showing a fair base price * * *. If such member of the code shall not within 10 days * * * file a new list showing such fair base price * * * the board of directors shall have the power to fix a fair base price. * * *

The code for the tag industry forbade producers who did not file prices to sell below the lowest figures filed by any of their competitors. In practice, prices were filed by one or two large firms and these prices were circulated throughout the industry in the form of a price book which showed the remaining concerns the minimum figures at which they were required to sell unless and until they chose to file prices of their own.[84]

ALLOCATION OF MARKETS

A number of codes contained provisions which were designed to effect an allocation of markets among the members of a trade. Some of them prohibited freight allowances, thus preventing sellers from entering distant markets by absorbing freight. Others prohibited "dumping," forbidding firms to sell outside their "normal market areas" at prices lower than those "customarily" charged within such areas and granting code authorities the power to determine which areas were "normal" and which prices "customary." Still others divided the country into zones and forbade producers located in one zone to sell in another below the prices charged by producers located there. Thus, the code for the salt-producing industry [85] provided that—

> The minimum prices established in any marketing field by any producer in that field shall be the lowest prices at which any producer shall sell in that field * * *

Such provisions, in effect, set up a tariff wall around each of the designated areas.

[83] Schedule E, sec. 6.
[84] Investigation of the National Recovery Administration, op. cit., p. 870.
[85] Art. 4–a.

ALLOCATION OF PRODUCTION

Ninety-one codes provided for the restriction of output and the distribution of available business among the firms in a trade. Four codes limited the size of inventories, compelling manufacturers to confine their operations to the volume permitted by current sales. Fifty-three codes imposed limitations upon the construction, conversion, or relocation of productive capacity, or made some provision for the imposition of such limitations, thus keeping total output within the limits set by existing facilities and distributing this total in proportions which conformed to the distribution of such facilities. The code for the iron and steel industry [86] asserted that—

> It is the consensus of opinion in the industry that, until such time as the demand for its products cannot adequately be met by the fullest possible use of existing capacities for producing pig iron and steel ingots, such capacities should not be increased. Accordingly, unless and until the code shall have been amended as hereinafter provided so as to permit it, none of the members of the code shall initiate the construction of any new blast furnace or open hearth or Bessemer steel capacity.

The codes for the motor vehicle storage and parking and the ready-mixed concrete trades authorized members to agree upon restrictions on capacity. Twenty-four codes forbade producers to add to capacity without permission, and twenty-six provided for the subsequent submission of recommendations affecting capacity. Sixty codes imposed limitations on the number of hours or shifts per day, or the number of hours, shifts, or days per week during which machines or plants might be operated, thus curtailing output and allocating the resulting volume of business on the basis of capacity. In certain of the textile industries, the permissible hours of operation were subsequently reduced, by administrative action, below those allowed in the codes.

Five codes provided for the assignment of fixed quotas in production or sales. The code for the glass container industry [87] provided that—

> * * * so long as the industry is operating below 70 percent of yearly registered capacity * * * the principle of sharing available business equitably among the members of the industry shall be recognized. * * * To make this principle effective, the code authority * * * shall, from time to time, but not less frequently than each 6 months, prepare an estimate of expected consumption of glass containers. Upon the basis of such estimate the code authority shall make equitable allocations to each member in the industry. * * * After such allotments have been assigned, no person shall produce glass containers in excess of his allotment.

The code for the Atlantic mackerel fishing industry [88] empowered the code authority to "estimate consumer demand" and to limit the catch of mackerel to a quantity which would maintain "a reasonable balance" between production and consumption, thereby assuring producers "minimum prices for mackerel not below the cost of production." The authority successively curtailed the number of pounds which any boat could catch and sell on a single trip, divided the boats into two squadrons and required them to fish in alternate weeks, and limited the quantity of mackerel which any boat could land in any week.[89] The code for the lumber and timber products industry [90]

[86] Art. V, sec. 2.
[87] Schedule A (a) and (d).
[88] Art. VIII, title C, 1.
[89] Investigation of the National Recovery Administration, op. cit., pp. 883–886.
[90] Art. VIII.

authorized code agencies to determine "estimates of expected consumption" and to establish production quotas for divisions of the industry "in proportion to the shipments of the products of each during a representative recent past period" and for individual producers in proportion to their average hourly or weekly production or volume of employment during a previous 3-year period, their tax payments during the preceding year, their ownership or control of reserves of standing timber, or some combination of these bases. It forbade each member of the industry to "produce or manufacture lumber or timber in excess of his allotment." The code for the petroleum industry [91] provided that—

> Required production of crude oil to balance consumer demand for petroleum products shall be estimated at intervals by a Federal agency designated by the President * * *. The required production shall be equitably allocated among the several States by the Federal agency * * *
>
> The subdivision into pool and/or lease and/or well quotas of the production allocated to each State is to be made within the State. Should quotas * * * not be made within the State, or if the production of petroleum within any State exceeds the quota allocated to said State, the President may regulate the shipment of petroleum * * * out of said State * * * and/or he may compile such quotas and recommend them to the State regulatory body in such State, in which event * * * such quotas shall become operating schedules for that State.
>
> If any subdivision into quotas of production allocated to any State shall be made within a State, any production by any person * * * in excess of such quotas assigned to him shall be deemed an unfair trade practice and in violation of this code.

The code for the copper industry [92] limited the output of primary copper, produced from ore, to 20,500 tons per month and that of secondary copper, produced from scrap, to 9,500 tons per month; assigned to each of 10 primary producers an absolute monthly sales quota, stated in terms of a fixed percentage of annual capacity; provided for the allocation of quotas among secondary producers "by some equitable method agreed upon by such producers and approved by the code authority"; permitted the authority to increase quotas by a majority vote or to decrease them by a unanimous vote; required producers to accept the orders assigned to them by a "sales clearing agent"; and outlawed sales made "by any member of the industry * * * in contravention of any of the provisions" of the code. The codes for the California sardine, cement, corrugated and solid fiber shipping container, cotton garment, folding paper box, iron and steel, machined waste, paper and pulp, and piano manufacturing industries provided for the consideration and later presentation of similar plans.

PENALTIES

Adherence to code requirements was enforced not only by public penalties provided in the law but also by private penalties established in the codes. Twenty-six industries bound their members to pay "liquidated damages" into the treasury of a code authority in the event of a violation. The code for the iron and steel industry [93] con-

[91] Art. III, secs. 3 and 4.
[92] Art. VII, sec. 6.
[93] Art. X, sec. 2.

tained the following provision:

> Recognizing that the violation by any member of the code of any provision [dealing with base prices, delivered prices, or terms of sale] will disrupt the normal course of fair competition in the industry and cause serious damage to other members of the code and that it will be impossible fairly to assess the amount of such damage to any member of the code, it is hereby agreed by and among all members of the code that each member of the code which shall violate any such provision shall pay to the Treasurer * * * as and for liquidated damages the sum of $10 per ton of any products sold in violation of any such provision.

In this case, as in others, it appears that the "liquidated damages" were really fines imposed on violators of the code rather than payments made to injured parties in order to reimburse them for losses actually sustained.

THE AFTERMATH OF THE N. R. A.

In some of the cases cited above, the activities of trade groups under the codes did not go as far toward eliminating competition as the provisions of the codes themselves would suggest. In others, actual practice went beyond the privileges granted by the codes, usually without the knowledge or approval of the N. R. A. In almost every case the more extreme grants of power were conditional, requiring further authorization by the administration or being subject to its veto. During the later months of the experiment, moreover, certain provisions of the type that had been written into the earlier codes were no longer granted, many privileges that had been conferred for a limited term were not renewed, and numerous applications for the approval of activities requiring specific sanction were denied. N. R. A. policy was moving away from the liberal authorization of noncompetitive practices that had characterized its earlier days.

The codes were invalidated by the decision of the Supreme Court in the *Schechter case* in 1935. But their provisions are still significant. They had their origin in the activities carried on by trade associations prior to 1933. They have persisted, in large measure, in the activities carried on by such associations since 1935. In certain areas, they have been reenacted into law. In others, such reenactment has been proposed. The policies embodied in the codes still command the support of a substantial segment of the business community. The Chamber of Commerce of the United States, as late as 1939, contended that [94]—

> There should be inquiry into need for legislation permitting industry rules of fair competition allowing agreements increasing the possibilities of relating production to consumption, affording means for authoritative advice in advance of consummation of mergers and consolidations desirable for normal business reasons, and providing special facilities for curtailment of production in natural resource industries, when the public interest makes it desirable. There should be such modification of the antitrust laws as would make clear the legality of agreements increasing the possibilities of keeping production in proper relation to consumption, with protection of the public interest at all times through Government supervision of such agreements.

The movement toward "self government in industry" has been checked, but not reversed. The logical outcome of this movement,

[94] Policies Advocated by the Chamber of Commerce of the United States (Washington, 1939), pp. 5–6.

as it is revealed by the contents of the codes, is the collective determination of prices, the curtailment of output, the allocation of markets and production, and the enforcement of these arrangements by the imposition of penalties; in short, the complete cartelization of American business.

LEGALIZED RESTRAINT OF COMPETITION

In several trades where sellers are numerous the imposition of restraints upon competitive activity has been authorized by laws enacted by the Congress of the United States and by the legislatures of the several States.

BITUMINOUS COAL

Competition in the bituminous coal industry has been successively subjected to control by the N. R. A. code approved for the industry in 1933, by the Bituminous Coal Conservation Act of 1935, and by the Bituminous Coal Act of 1937. Unless extended by Congress, the act of 1937 will expire on April 26, 1941. Under this act, producers are governed by the provisions of a code, set forth in this case in the law itself. The code regulates various trade practices and outlaws numerous forms of indirect concession in price. It authorizes boards elected by producers in 23 districts to propose minimum prices to the Bituminous Coal Division in the Department of the Interior, successor, in 1939, to the National Bituminous Coal Commission established in the law. These prices must be so calculated—

> * * * as to yield a return per net ton for each district in a minimum price area * * * equal as nearly as may be to the weighted average of the total costs per net ton * * * of the tonnage of such minimum price area. The computation of the total costs shall include the cost of labor, supplies, power, taxes, insurance, workmen's compensation, royalties, depreciation, and depletion * * * and all other direct expenses of production, coal operators' association dues, district board assessments for board operating expenses * * * and reasonable costs of selling and the cost of administration.

On the recommendation of the district boards, the Division may establish minimum prices. On its own initiative, it may establish maximum prices, provided, however, that "no maximum price shall be established for any mine which shall not yield a fair return on a fair value of the property." Producers who subscribe to the code are exempt from the prohibitions of the Sherman Act. Those who do not subscribe must pay a punitive tax of 19½ percent on the value of the coal they sell. Those who violate any of the provisions of the code and those who sell below the minimum prices or above the maximum prices fixed by the Division may be subjected to the tax by revocation of membership and may be sued for treble damages by any of their competitors. In pursuance of the authority vested in it by the law, the Division has undertaken to fix thousands of minimum prices, covering every grade of coal, shipped by every means of transportation, from every shipping point in the United States.

PETROLEUM

In all of the major oil-producing States, legislatures have undertaken to conserve the supply and maintain the price of petroleum by

authorizing administrative agencies to curtail production and to assign quotas to individual producers. But uncoordinated action by individual States may prove to be ineffective as a means of maintaining price, since the curtailment effected in one State may be offset by expansion in another. Accordingly, the cooperation of the Federal Government has been enlisted in the enforcement of the plan. An "Interstate Oil Compact" binding six producing States to conserve supplies by restricting output was ratified by Congress in 1935. The forecasts of "market demand" which afford the basis for the distribution of quotas among the States are issued monthly by the Bureau of Mines. And finally, the shipment in interstate commerce of petroleum produced in violation of State laws and regulations has been prohibited; first under the N. R. A. code for the industry in 1933; and subsequently, under the Connally "Hot Oil Act" passed by Congress in 1935, and extended, in 1939, until June 30, 1942.

TRUCKING

Competition in the trucking industry is restrained both by State and by Federal law. Intrastate trucking has been controlled by the States for many years. Nearly all of the States now require common carriers to obtain certificates of public convenience and necessity and a majority of them require contract carriers to obtain permits as a condition of entering or continuing in the industry. State commissions are empowered to establish minimum and maximum rates for common carriers and minimum rates for contract carriers. Between 1933 and 1935, the industry operated under an N. R. A. code which provided for the adoption of a "cost" formula and prohibited sales below "cost." Interstate trucking was subsequently brought under the control of the Federal Government by the Motor Carrier Act of 1935. This law requires common and contract carriers, respectively, to obtain certificates of public convenience and necessity and permits to operate, and it empowers the Interstate Commerce Commission to fix maximum rates for common carriers and minimum rates for carriers of both types. Both State and Federal laws are designed not only to insure the safety of highway transportation, the financial responsibility of carriers, the dependability of service, the stability of rates, and the prevention of discrimination, but also to limit the number of firms engaging in the industry and to establish and maintain rates at levels higher than those which would prevail under active competition. Both State and Federal commissions have adopted the policy of denying numerous applications for certificates and permits, thus protecting firms already established and forestalling further competition between highways and railways. At the same time, they have set minimum rates at levels which have been calculated to check the diversion of traffic from the rails to the roads. In the railway industry, it was the original purpose of regulation to prevent monopolistic price increases by establishing maximum rates. In the trucking industry, it is the apparent purpose of regulation to prevent competitive price reductions by establishing minimum rates.[95]

[95] Cf. Philip D. Locklin, Economics of Transportation (revised edition, Chicago, 1938), ch. 34.

AGRICULTURE

Several acts of Congress have been designed to enable farmers to limit competition in the production and distribution of their crops. The Clayton Act of 1914 specifically exempted non-profit agricultural and horticultural organizations from the prohibitions of the anti-trust laws. The Capper-Volstead Act of 1922 authorized agricultural producers to form cooperative associations for the collective processing, preparation, handling, and marketing of farm products, subject to the issuance of a cease and desist order by the Secretary of Agriculture if he "shall have reason to believe that any such association monopolizes or restrains trade in inter-state or foreign commerce to such an extent that the price of any agricultural product is unduly enhanced * * *" The Cooperative Marketing Act of 1926 further authorized such associations to distribute "crop, market, statistical, economic, and other similar information." The Agricultural Marketing Act of 1929 set up a Federal Farm Board and empowered it to organize and finance cooperative associations and to establish stabilization corporations for the purpose of maintaining the prices of agricultural products by temporarily withholding them from the market. The Agricultural Adjustment Act of 1933, which superseded this measure, authorized the Secretary of Agriculture to enter into voluntary contracts with the producers of certain "basic" commodities, providing for the restriction of output, the assignment of quotas, and the payment of cash benefits, and to finance these operations by imposing taxes on millers, ginners, packers, and other processors. The list of "basic" commodities, limited in the original Act to wheat, cotton, corn, hogs, rice, tobacco, and milk and its products, was extended by amendments adopted in 1934 to include rye, flax, barley, grain sorghums, cattle, peanuts, and sugar, and in 1935 to include potatoes. Participation in the curtailment program, voluntary in the original Act, was made compulsory for the producers of cotton in the Bankhead Act of 1934, for the producers of tobacco in the Kerr-Smith Act of 1934, and for the producers of potatoes in the Warren Act of 1935, by imposing punitive taxes on those who exceeded the limits set by their quotas. The use of processing taxes to finance benefit payments under A. A. A. contracts was invalidated by the Supreme Court on January 6, 1936, and the cotton, tobacco, and potato control measures were promptly repealed. The act of 1933, as amended, also exempted from the prohibitions of the antitrust laws agreements entered into by producers, processors, and distributors for the purpose of controlling the marketing of agricultural products, and empowered the Secretary of Agriculture to issue marketing orders enforcing these agreements. Agreements and orders restricted grades and sizes, established "shipping holidays," diverted commodities to by-product uses, imposed marketing quotas, regulated marketing charges, required price reporting, and in the case of fluid milk fixed producers' and consumers' prices and distributors' margins. These arrangements survived the decision handed down by the Court in 1936 and were carried over into the Agricultural Marketing Agreement Act of 1937. Control of the production and importation of sugar, enacted in 1934, also survived the decision and was carried over into the Sugar Act of 1937. This measure directs the Secretary of Agriculture to estimate the "probable consumption" of sugar and to control the total supply,

imposes quotas on the importation of raw and refined sugar and on the production, in domestic areas, of beet and cane sugar, provides for the assignment of quotas to individual producers and for the payment of cash benefits to those who remain within their quotas, and finances these arrangements by levying a tax of one-half cent per pound on all sugar marketed in the United States. Control of the output of other commodities was continued for 2 years under the Soil Conservation and Domestic Allotment Act of 1936, a stop-gap measure which authorized the Secretary of Agriculture to make payments to farmers for diverting land from "soil-depleting" to "soil-conserving" crops. The Agricultural Adjustment Act of 1938, which retains this device, provides also for the establishment of an elaborate scheme of control affecting the production of wheat, cotton, corn, tobacco, and rice. This measure empowers the Secretary of Agriculture to enter into voluntary contracts with producers, providing for the restriction of output, the assignment of quotas, and the payment of cash benefits, to make loans to producers who withhold their crops from the market, to impose compulsory marketing quotas when supplies exceed a certain size and when two-thirds of the producers voting in a national referendum approve such compulsion, and to enforce these quotas by levying a punitive tax on quantities produced in excess of quota limits and by refusing to make loans to producers who fail to cooperate in the program.

State as well as Federal laws permit the producers and distributors of agricultural commodities to engage in collective activities. Michigan first authorized the establishment of agricultural cooperatives in 1865 and every State but Delaware had followed suit by 1928. The laws of 42 States follow the language of the standard cooperative marketing bill, which grants to cooperative associations the power [96]—

> To engage in any activity in connection with the marketing, selling, preserving, harvesting, drying, processing, manufacturing, canning, packing, grading, sorting, handling, or utilization of any agricultural products produced or delivered to it by its members; or the manufacturing or marketing of the by-products thereof; or any activity in connection with the purchase, hiring, or use by its members of supplies, machinery, or equipment; or in the financing of any such activities. * * *

The bill further provides that [97]—

> Any association organized hereunder shall be deemed not to be a conspiracy nor a combination in restraint of trade nor an illegal monopoly; nor an attempt to lessen competition or to fix prices arbitrarily or to create a combination or pool in violation of any laws of this State; and the marketing contracts and agreements between the association and its members and any agreements authorized in this act shall be considered not to be illegal nor in restraint of trade nor contrary to the provisions of any statute enacted against pooling or combinations.

Associations established under these laws have been able to exercise appreciable influence over prices and production only in the cases of certain fruits and vegetables, which are grown within limited geographical areas, and in the case of fluid milk, which is sold in regional markets. The American Cranberry Exchange controlled, in 1926 and 1927, about 64 percent of the cranberries grown in the three major producing States—Massachusetts, New Jersey, and Wisconsin. According to the Federal Trade Commission, "The main function of the exchange is to determine an opening price." [98] The California Prune

[96] Federal Trade Commission, Cooperative Marketing, 70th Cong., 1st sess., S. Doc. No. 95 (1928), p. 386.
[97] Ibid., p. 392.
[98] Ibid., p. 120.

and Apricot Growers' Association handled, from 1922 to 1926, between 44 and 66 percent of the California prune crop, which was more than nine-tenths of the Nation's crop. The association stored, processed, and packed the fruit, fixed its price, and fed it to the market at this price.[99] The California Fruit Growers Exchange assigned weekly shipping quotas to growers and shippers of lemons in 1925 and pro-rated shipments among growers of Valencia oranges in 1932 and 1933. Its subsidiary, the Exchange Orange Products Co., receives oranges, lemons, and grapefruit classified as "unmerchantable" from local packing associations and places them in a common pool. From this pool, according to the Federal Trade Commission [1]—

> Such quantities as can be sold at prices asked by the Exchange Orange Products Co. are disposed of to independent orange juice buyers or processors. Next, the Exchange Orange Products Co. takes all the fruit that it feels it can process to advantage. If there still remains a balance that nobody wants at the prices asked by the company, the fruit is given away to relief agencies in such quantities as they can use. If there still remains a balance undisposed of, it is dumped. During the 6 years from 1931 to 1936, inclusive, the Exchange Orange Products Co. sold 11.8 percent, processed 56 percent, gave away 7.5 percent, and dumped 24.7 percent of the fruit received into its pool. In different years the percentages of the total dumped ranged from 1.9 in 1936 to 55.7 in 1932.

California peach growers adopted a production restriction program in 1930 and 1931, levying assessments on canners to finance payments to growers who did not harvest their crops. An association of lettuce growers in the Imperial Valley has frequently restricted shipments by conferring on its secretary the exclusive right to place shipping orders with the railroads. Similar proration plans have been adopted by growers of California grapes and cantaloups.[2] Associations of milk producers control the bulk of the fluid milk which is sold in urban markets. Members of such associations produced about 50 percent of the milk sold in New York, St. Louis, and Kansas City and between 70 and 90 percent of that sold in Chicago, Philadelphia, Boston, Baltimore, Washington, Detroit, and the Twin Cities in 1935.[3] These associations customarily enter into collective bargaining agreements with distributors, fixing producers' and consumers' prices and, incidentally, distributors' margins. In some cases, these agreements provide for payment according to a "base rating" or "base and surplus" plan. Under this plan, producers are assigned quotas corresponding to their low production during the fall and winter months and are paid throughout the year at a higher price for "base" milk, produced within their quotas, and at a lower price for "surplus" milk, produced in excess of their quotas. This arrangement is designed, primarily, to lessen seasonal fluctuations in supply. But it has also been employed, at times, as a means of restricting and allocating output and excluding new producers from the field. By refusing to revise quotas from year to year, thus compelling producers who have expanded output to accept the "surplus" price for the additional supply, associations have sometimes checked production and imposed pecuniary penalties on those who sought to obtain a larger share of the market. By refusing to assign quotas

[99] Charles F. Phillips, Marketing (Boston, New York, 1938), pp. 129–130.
[1] Federal Trade Commission, Agricultural Income Inquiry, Part II, 1938, p. 682.
[2] Henry H. Bakken and Marvin A. Schaars, The Economics of Cooperative Marketing (New York, 1937), pp. 508–511.
[3] John D. Black, The Dairy Industry and the A. A. A. (Washington, 1935), p. 48.

to new producers and by requiring them to accept the "surplus" price for their entire output during a probationary period and for a large part of their "basic" output during an additional period of several months, they have obstructed the establishment of new concerns.[4] The ability of an association to control the allocation of quotas may thus confer upon its members an appreciable measure of monopoly power.

More than half of the States have enacted temporary or permanent milk control laws since 1933. Twenty-one States had such measures on their statute books at the beginning of 1940. These laws typically confer upon some State agency—usually a milk control board composed, in most cases, of representatives of producers and distributors—the power to promulgate rules and regulations governing the production, transportation, processing, handling, storage, and sale of milk and its products; to define and designate milksheds and marketing areas; to fix minimum producer, wholesale, and retail prices; to grant licenses to persons engaged in the industry; and to refuse or revoke licenses for violation of its orders. The prices fixed and the quotas established within a local market by a State milk control board are likely to be those agreed upon by the producers and distributors who serve that market. In such a case, the State's program may be said to constitute a public underwriting of a private scheme of price and production control.[5]

Statutes containing provisions, similar to those of the Agricultural Adjustment Act, authorizing producers and distributors of other commodities to enter into marketing agreements have been enacted by a few States. The "little A. A. A." laws passed by Washington[6] and Oregon[7] in 1935 were invalidated by the courts of those States in the same year.[8] The provision of the Growers' Cost Guarantee Act[9] of 1935 empowering the Florida Citrus Commission to fix minimum prices on the basis of average "costs" was held unconstitutional by a United States district court in 1939.[10] The Citrus Marketing Act[11] passed by Texas in 1937 empowered the Commissioner of Agriculture to execute marketing agreements and licenses establishing production and marketing quotas and systems of surplus control for citrus fruits, but the Supreme Court of that State held in 1939 that the act did not authorize him to fix prices.[12] In California, however, the Agricultural Prorate Commission Act[13] of 1933, providing for the allocation of quotas upon the approval of two-thirds of the producers concerned, was upheld by a sweeping decision of the State Supreme Court in 1936.[14] The California Legislature has enacted numerous other measures empowering the State Director of Agriculture to approve marketing agreements, to license producers and distributors, and to assign

[4] Ibid., pp. 94, 207–208; Irene Till, "Milk—The Politics of an Industry," in Hamilton, op. cit.

[5] Black, op. cit., ch. 11; J. M. Tinley, Public Regulation of Milk Marketing in California (Berkeley, 1938), ch. 5, 6; W. P. A., Marketing Laws Survey, Barriers to Trade Between States, chart 2.

[6] Washington Laws, 1935, ch. 78.

[7] Oregon Laws, 1935, ch. 250.

[8] U. S. Law Week, 2: 1104; 3: 83.

[9] Florida Laws, 1935, ch. 16,862.

[10] U. S. Law Week, 6; 1299–1300.

[11] Texas Laws, 1937, ch. 362.

[12] Dallas Morning News, April 27, 1939.

[13] California Statutes, 1933, ch. 754.

[14] *Agricultural Prorate Commission* v. *The Superior Court in and for Los Angeles County et al.*, 55 P. (2d) 495.

purchase and marketing quotas. The Agricultural Marketing Act of 1937 [15] authorizes the Director, with the assent of 65 percent of the producers or handlers, or both, to limit the quantity of any agricultural commodity that may be marketed, to assign quotas to processors and distributors, to establish "surplus or reserve pools" of the commodity, and to apportion the proceeds of sales made from such pools. The Processed Foodstuffs Marketing Act,[16] passed in the same year to expire on September 30, 1939, empowered the Director, with the assent of 65 percent of the producers concerned, to issue orders prohibiting the sale of processed foodstuffs below "cost" or at prices other than those filed, and to make "cost" determinations which bound producers unless they could demonstrate that their own "costs" were lower. An Oregon law,[17] passed in 1935, permits the State Director of Agriculture to fix maximum and mimimum prices, margins, and discounts, and to regulate terms and conditions governing the sale of dairy products, fruits, and vegetables. A Georgia law,[18] passed in the same year, authorizes the State Commissioner of Agriculture to establish farmers' markets within the State and to fix and enforce minimum prices for fruits, vegetables, and truck crops sold in these markets. An Idaho statute of 1935 [19] empowered the State Agricultural Adjustment Board to approve agreements or codes among producers, processers, or handlers of agricultural commodities produced or marketed in Idaho, regulating trade and marketing practices and prices.

THE DISTRIBUTIVE TRADES

In the distributive trades the pressure exerted by associations of independent retailers in an effort to obtain protection against cut-rate stores, chain stores, mail order houses, department stores, and other mass distributors has resulted in the enactment of four types of laws which are designed to limit competition in this area.

By the end of 1939, "fair trade laws" were in effect in every State except Delaware, Missouri, Texas, and Vermont. These statutes permit the producers of branded goods to enter into contracts with individual distributors specifying the minimum prices at which such goods may be resold and, through a "nonsigners clause," make these contracts binding on all distributors, whether they have signed them or not, thus establishing a mandatory minimum price on every sale of any product to which any such contract has been applied. The Miller-Tydings amendment to the Sherman and Federal Trade Commission Acts, passed by Congress in 1937, supplements these measures by legalizing resale price maintenance contracts in interstate commerce where they are lawful in the State in which the resale takes place. Successful in the State legislatures and in Congress, the retailers' associations have applied pressure to manufacturers in an effort to force them to sign contracts, to maintain prices, and to widen distributors' margins.[20]

[15] California Statutes, 1937, ch. 404.
[16] California Statutes, 1937, ch. 789.
[17] Oregon Laws, 1935, ch. 65.
[18] Georgia Laws, 1935, No. 44.
[19] Idaho Laws, 1935, ch. 113.
[20] Ralph Cassady, Jr., "Maintenance of Resale Prices by Manufacturers," Quarterly Journal of Economics, May 1939, p. 459; Corwin D. Edwards, Appraisal of "Fair Trade" and "Unfair Practice" Acts, statement before the fifty-second annual meeting of the American Economic Association, December 27, 1939.

Price maintenance contracts now cover many drugs, cosmetics, toilet goods, books, cigars, and liquors, much stationery and photographic equipment and supplies, and some jewelry, radios, electrical appliances, confectionery, soft drinks, bakery products, tobacco, wines, beer, and men's furnishings; altogether between 5 and 10 percent of all goods sold at retail in the United States.[21]

Statutes of a second type, called "unfair practices acts," were in effect in 27 States at the end of 1939. These measures typically forbid retailers and wholesalers [22] to sell goods at less than invoice or replacement cost, whichever is lower, plus a minimum mark-up. In some cases the distributor must add a percentage which covers his "average cost of doing business." In others he must observe a percentage specified by law unless he can prove that his own "cost" is lower. In still others he must add a percentage which covers the average "cost" revealed by a survey of the "costs" of all distributors. Here, as elsewhere, the determination of "cost" is subject to abuse. In Montana surveys signed by three-fourths of the grocers in a county have been accepted as evidence of average "cost"; [23] in California, statements of specific prices that must be charged in order to cover "cost" have been circulated by trade groups.[24]

Statutes of a third type prohibit discrimination in price. Such laws were in effect, at the end of 1939, in the Nation and in 32 of the States. The Robinson-Patman Act, passed by Congress in 1936 as an amendment to the Clayton Act, forbids sellers to fix different prices for "different purchasers of commodities of like grade and quality" unless the differences involved "make only due allowance for differences in the cost of manufacture, sale, or delivery, resulting from the differing methods or quantities in which such commodities are sold or delivered." This rule, of course, should serve merely to place purchasers, as competitors, on an equal footing. But the act goes on to authorize the Federal Trade Commission to "fix and establish quantity limits" beyond which differences in price may be forbidden even though they make "only due allowance for differences in the cost of manufacture, sale, or delivery" and to provide for the punishment, by fine and imprisonment, of any person who shall "sell, or contract to sell, goods at unreasonably low prices for the purpose of destroying competition or eliminating a competitor." It is obvious that such provisions are designed to handicap the large distributor who buys in quantity and sells at prices which his competitors believe to be "unreasonably low."

The fourth, and most important, type of legislation that limits retail competition is the chain store tax. This tax is typically imposed on every store in a chain at a rate which rises with the number of stores maintained within a State, the maximum levy ranging from $100 in Wisconsin to $500 in Idaho and $750 in Texas. In Louisiana, however, the rate rises with the number of stores in a chain, wherever located, reaching a maximum of $550 on each outlet maintained within the State by chains operating more than 500 stores. By 1939, such laws had been enacted by 23 States and bills had been introduced in Congress calling for Federal taxation at even higher rates. Georgia also imposes

[21] Ewald T. Grether, Price Control Under Fair Trade Legislation (New York, 1939), p. 323.
[22] South Carolina's law applies also to manufacturers.
[23] Grether, op. cit., p. 367.
[24] Edwards, op. cit.

on mail-order chains a tax which rises from $2,000 for the first unit, through $8,000 for each of the next 4, to a maximum of $10,000 for each unit in excess of 5. Minnesota imposes a similar tax at lower rates.

OTHER TRADES EXEMPT FROM FEDERAL ANTITRUST LAWS

Congress, from time to time, has exempted agreements among producers in a number of other trades from the prohibitions of the antitrust laws. The Shipping Act of 1916 authorized steamship companies to enter into agreements restricting the number of sailings, allotting ports, limiting and apportioning traffic, fixing rates and fares, pooling earnings, "or in any manner providing for an exclusive, preferential, or cooperative working agreement." The United States Shipping Board was required to pass on these agreements and to approve all those which were not "unjustly discriminatory or unfair" and did not "operate to the detriment of the commerce of the United States." This function was inherited by the United States Maritime Commission in 1936. The Webb-Pomerene Act of 1918 permitted producers to form associations for the purpose of engaging in the export trade.[25] The Merchant Marine Act of 1920 authorized marine insurance companies to enter into "any association, exchange, pool, combination or other arrangement for concerted action" which might be formed in order "to transact a marine insurance and reinsurance business in the United States and in foreign countries and to reinsure or otherwise apportion among its membership the risks undertaken by such association or any of the component members." The Fisheries Cooperative Marketing Act of 1934 permitted fishermen to act together in associations engaged "in collectively catching, producing, preparing for market, processing, handling, and marketing" aquatic products, subject to the issuance of a cease and desist order by the Secretary of Commerce if he should find "that such an association monopolizes or restrains trade in interstate or foreign commerce to such an extent that the price of any aquatic product is unduly enhanced * * *." The latest of these measures, the Maloney Act of 1938, authorizes associations of over-the-counter brokers and dealers in securities to operate as self-regulatory agencies under the supervision of the Securities and Exchange Commission, provided their rules are not designed "to permit unfair discrimination between customers or issuers, or brokers or dealers, to fix minimum profits, to impose any schedule or fix minimum rates of commissions, allowances, discounts, or other charges."

OTHER TRADES EXEMPT FROM STATE ANTITRUST LAWS

Legislatures have granted similar exemptions under the antitrust laws of many States. For some years, Colorado and California, in effect, exempted virtually every agreement among competitors. The California statute was amended in 1909 to provide [26]—

> * * * that no agreement, combination, or association shall be deemed unlawful or within the provisions of this act, the object and business of which are to conduct its operations at a reasonable profit or to market at a reasonable profit those products which cannot otherwise be so marketed * * *.

[25] Cf. supra, pp. 219–222.
[26] California Statutes, 1909, p. 594.

The Colorado provision was invalidated by the Supreme Court of the United States in 1927;[27] the California provision by a Federal district court in 1938.[28]

During the life of the N. R. A., 24 States enacted supplementary statutes, exempting the national codes from State antitrust laws, providing for State participation in their enforcement, and in some cases authorizing State agencies to approve codes controlling competition in intrastate trades. Most of these measures were abandoned following the decision of the Supreme Court in the *Schechter case* in 1935. Wisconsin's "little N. R. A.," however, was revised and continued in 1935 and again in 1937. "Codes of fair competition," approved by a Trade Practice Department, governed the barber, shoe repair, cleaning and dyeing, and highway construction trades throughout the State at the beginning of 1938, and a code for "beauticians" was pending.[29]

The Legislature of New Jersey set up a State Board for the Cleaning and Dyeing Trade in 1935 and authorized it to regulate prices in the trade. The Board promulgated a code in December of the same year, fixing a minimum price of 59 cents with a 10-cent delivery charge and prohibiting the practice of cleaning garments and returning them in a rough state for pressing at home. The price fixing provisions of the law were held to be unconstitutional by a United States district court and the code was abandoned within 3 months.[30]

California's Service Trades Act, passed in 1935, empowered counties and cities to approve codes for the barber shop, beauty shop, cleaning and dyeing, rug cleaning, and hat renovating trades, provided 80 percent of the establishments in the area signified their willingness to participate. An amendment passed in 1937 reduced this percentage to 65.[31] Pursuant to this authority, several communities, among them San Francisco, Sacramento, Bakersfield, Santa Monica, and San Diego, enacted codes as local ordinances. San Francisco's code for the cleaning and dyeing trade established a minimum price of $1, eliminated the cash and carry differential, and provided for the punishment of violators by fine and imprisonment. The code was contested by the operator of a chain and was shortly declared unconstitutional by a State court. The decision nullified the other codes as well.[32]

Minimum price fixing in the service trades has been authorized by law in 13 other States: Alabama, Arizona, Colorado, Delaware, Florida, Indiana, Iowa, Louisiana, Minnesota, Montana, New Mexico, Oklahoma, and Tennessee. These statutes take various forms: some of them empower a State agency to regulate the trades; others permit such an agency to approve codes submitted by their members; still others authorize local governments to adopt regulatory ordinances. In some States these laws cover only the barbering, cleaning and dyeing, laundering, or beauty culture businesses; in others they embrace all of the service trades. The acts have been challenged in the courts of at least 9 States; they were upheld in Colorado, Louisiana, Minne-

[27] *Cline* v. *Frink Dairy Co.*, 247 U. S. 445.
[28] *Blake* v. *Paramount Pictures, Inc., et al.*, District Court of the United States, Southern District of California, Central Division, 22 Fed. Supp. 249.
[29] Grether, op. cit., pp. 398–399.
[30] Morrison Handsaker, The Chicago Cleaning and Dyeing Industry (University of Chicago doctoral dissertation, 1939, typescript), pp. 97–98.
[31] Grether, op. cit., pp. 76–77.
[32] Handsaker, op. cit., pp. 98–99.

sota, and Oklahoma, but they were declared unconstitutional in Alabama, Delaware, Florida, Iowa, and Tennessee.[33]

A State commission in Utah has administrative powers under an act which "suggests N. R. A. technique for fostering concerted action by producers under the plea of protecting employment." The Montana Board of Railway Commissioners, which administers the Unfair Practice Act of that State, is said to be "a vehicle for promoting trade association price maintenance combinations." [34]

In November 1938, 21 States licensed dealers in new automobiles and used cars taken in trade, 5 others licensed dealers in used cars, and 3 others authorized municipalities to require such licenses. In some of these States it appears that the licensing power has been employed to limit competition in the field. Under the Nebraska act,[35] "willfully or habitually making excessive trade-in allowances for the purpose of lessening competition or destroying a competitor's business" is sufficient ground for denying, suspending, or revoking a dealer's license. At the request of 40 percent of the retailers in any section of the State, the administrator of the act can authorize a survey for the purpose of determining a fair basis for allowances. Thereafter, any dealer who makes allowances in excess of the amounts that are so determined may be denied the right to continue in business. The Wisconsin law [36] gives the State Banking Commission power to promulgate rules and regulations and to define "unfair trade practices." In pursuance of this authority, the Commission declared on October 15, 1937, that—

> such consistent and material overallowances on used car trade-ins over a period of time which shall tend to adversely affect competition, demoralize the industry, or injure the consumers shall be considered an unfair trade practice.[37]

The dealer is required to file reports on his allowances and if his figures are consistently higher than the average for the trade he may find that his license is in jeopardy. A Pennsylvania statute,[38] which was found to be unconstitutional before it took effect, created a motor vehicle dealers' commission and provided that—

> The commission shall, within 30 days from the time it is established, determine by a survey what the average sale price for used motor vehicles was for each make, model, body type, and year, and shall issue orders that for the ensuing 30 days no appraiser shall appraise a used motor vehicle for a greater amount.

According to the Federal Trade Commission, the laws of Ohio [39] and Iowa [40] also "appear to have been enacted primarily for the purpose of regulation of the trade rather than to produce revenue." [41] The Automobile Manufacturers Association has commented on this legislation as follows:

> Proponents of the laws in every case have been organizations of the dealers themselves, whose spokesmen have testified to the desire for control over acute types of competition. * * * There has been no popular sponsorship nor support from organizations speaking for consumers as such.[42]

[33] Works Progress Administration, Marketing Laws Survey, State Price Control Legislation, Washington, 1940 (in galley proof).
[34] Ibid.
[35] Bill No. 388, Nebraska Laws of 1937.
[36] Sec. 218.01, Wisconsin Statutes, as amended by House Bill No. 429, Laws of 1937.
[37] Federal Trade Commission, Motor Vehicle Industry (1939), p. 405.
[38] Senate bill No. 815, Laws of 1937 (Act No. 461).
[39] House bill No. 531, Ohio Laws of 1937.
[40] House bill No. 218, Iowa Laws of 1937.
[41] Federal Trade Commission, op. cit., p. 400.
[42] Cited in Ibid., p. 407.

INTER-STATE TRADE BARRIERS

The erection of artificial barriers obstructing imports from abroad and impeding trade between the States is another method by which competition has been limited by law. The "protective" tariff protects domestic producers from the necessity of meeting the prices charged by their foreign competitors. Various measures recently enacted by State legislatures are designed to protect producers who are located in one State from the competition of those who are located in another.

A majority of the States grant special favors to local producers of alcoholic beverages and of the ingredients from which they are made. Twenty-six States impose higher license fees and excise taxes on brewers and distillers who use imported ingredients than on those who use ingredients produced at home. Maine collects a fee of $3,000 from those in the former group, a fee of $100 from those in the latter. Four barley-producing States require that malt beverages sold within their borders contain two-thirds barley malt. Thirty States restrict imports of liquor. Montana imposes a tax of $1 on every barrel of imported beer. In some States, a corporation is not allowed to import alcoholic beverages unless a certain number of its directors are citizens of the State. In several, distributors who import liquor must pay higher fees than those who buy at home. In a few, State liquor stores must buy, if possible, from local sources of supply.[43]

Many States undertake to protect local dairy interests by obstructing the sale of oleomargarine. Two-thirds of the States prohibit the sale of yellow margarine, while many require persons selling any butter substitute to display signs and make announcements that are calculated to discourage its use. Twenty States forbid State institutions to purchase substitutes. Sixteen impose annual license fees ranging from $1 to $1,000 on firms engaged in the manufacture, distribution, sale, or serving of margarine. Twenty-three impose excise taxes ranging from 5 to 15 cents a pound. In the Cotton Belt, however, most of the States exempt butter substitutes containing local vegetable products from these taxes; in the cattle country, three States exempt substitutes containing a certain percentage of animal fats.[44]

State inspection, grading, and labeling requirements are frequently employed as a means of restricting the importation of livestock, nursery stock, milk, poultry products, fruits, and vegetables. Several States require out-of-State shippers of livestock to obtain permits and produce health certificates and tuberculin test charts. Some of them make a second inspection, holding imported livestock in quarantine for several days, thus subjecting shippers to needless expense and delay. Forty-seven States inspect imported nursery stock. In 1939 the Federal Government was imposing quarantines against 11 plant diseases and insect pests; the States against 239. Many States, requiring inspection of dairies by State authorities, check the flow of milk across their borders by limiting inspection areas. Some States, through grading and labeling requirements, attempt to restrict imports of chickens and eggs. Florida defines "fresh dressed poultry" as poultry free from disease, slaughtered in Florida. Florida, Georgia, and Arizona each

[43] W. P. A. Marketing Laws Survey, Barriers to Trade Between States (Washington, 1939), chart 6.
[44] Ibid., chart 3

define "fresh eggs" as eggs laid within the State. A number of States maintain rigorous standards in grading fruits and vegetables and either require that distinctive labels be attached to those falling in the lower grades or exclude them altogether. Georgia goes so far as to empower its commissioner of agriculture to embargo out-of-State fruits, vegetables, and truck crops when he believes the domestic supply to be sufficient for the markets of the State.[45]

State tax laws and traffic regulations operate to handicap interstate truckers. Intrastate truckers pay registration fees, gross receipts taxes, and mileage taxes to a single State; interstate truckers must pay them to several States. The cumulative burden may be heavy. A trucker traveling from Alabama, through Georgia, to South Carolina, for instance, is required to pay registration fees aggregating $1,100. Nine States avoid such pyramiding by granting complete tax reciprocity, but 32 grant only partial reciprocity; and 7 grant none at all. Some States also impose special taxes on itinerant merchants who sell from trucks or temporary stands. State laws governing the height, length, weight, and equipment of vehicles, moreover, are so diverse that a truck which conforms to the regulations of one State may be excluded from another. A few States have erected ports of entry at their borders where out-of-State trucks must register, pass inspection, pay taxes, satisfy liability requirements, and obtain clearance certificates before they are permitted to proceed.[46]

Fifteen States which tax intrastate sales impose an equivalent "use tax" on imports. Nine of them exempt from this tax goods that have already paid a sales tax in another State; six of them do not. In the latter case, an out-of-state producer who must pay both taxes is handicapped in competing with a domestic producer who pays the sales tax alone.[47]

Every State except Alabama requires that some sort of preference be shown to residents in making public purchases. State departments and institutions, cities, counties, townships, and school districts must, where possible, hire local labor, award all contracts or specific contracts to local bidders, and purchase all supplies or designated supplies from local firms. Eighteen States direct that all public printing must be done within their boundaries. Seven States require their purchasing agents to buy coal from local mines. Four require them to buy home-made stationery, blank-books, and office supplies. In Indiana, they must buy Indiana limestone; in Maryland, green marble; in Virginia, soft winter wheat flour; in Missouri, products of the State's "mines, forests, and quarries"; in Oklahoma, goods "mined, quarried, or manufactured" within the State; and in Nebraska, "Nebraska-produced butter." [48]

The desirability of legislation of any of the types described above is not here in question. It is sufficient to note that each of these measures was designed to limit competition in a field which might otherwise have been highly competitive.

[45] Ibid., charts 2, 4, 5.
[46] Ibid., chart 1.
[47] Ibid., chart 7.
[48] Ibid., chart 8.

LOCAL MARKETS

In local, as well as in national markets, the presence of many sellers affords no guaranty that active competition will prevail. Bakers, barbers, building contractors, cleaners and dyers, coal dealers, cold storage houses, garages and parking lots, hotels, ice manufacturers, laundrymen, lumberyards, milliners, movers, printers, restaurants, retailers of every description, shoe repairmen, tailors, theaters, truckmen, and undertakers all had their "codes of fair competition" during the days of the N. R. A. Many of them, before and since, have entered into price agreements, shared markets, and inflicted boycotts on those who dealt with their competitors. A partial list of the instances, involving more than 150 groups in some 50 different trades in many different localities at some time during the past 20 years, in which it has appeared that a trade association, a trade union or some other group, formal or informal, has imposed limitations on competition in local markets is given on the pages which follow.

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940

Trade and locality	Group	Reference
Artichoke dealers: New York City.	No formal organization	Federal Antitrust Laws, case 387 (1933).
Automobile retailers:		
Belleville, Ill.	East Shore Dealers Cooperative Bureau.	Federal Trade Commission, Motor Vehicle Industry, (1929) pp. 383–385.
Boston, Mass.	Metropolitan Ford Dealers Association.	Ibid., pp. 396–398.
Kansas City, Mo.	The Service Bureau, Inc.	Ibid., pp. 393–394.
Los Angeles, Calif.	Market Analysis, Inc.	Ibid., pp. 385–386.
	Dealers Service, Inc.	Ibid., pp. 386–387.
	Motor Car Dealers Association of Southern California.	Ibid., pp. 387–389.
	Los Angeles Motor Car Dealers Association.	Ibid., pp. 389–390.
Milwaukee, Wis.	Wisconsin Automotive Trades Association.	Ibid., pp. 390–393.
Muskegon, Mich.	Muskegon District Auto Trades Association.	Ibid., pp. 370–371.
Norfolk, Va.	Norfolk-Portsmouth Automobile Dealers Appraisal Bureau.	Ibid., pp. 394–395.
Philadelphia, Pa.	Buick Dealers Association.	Ibid., pp. 377–383.
Rockford, Ill.	Winnebago County Automobile Dealers Association.	Ibid., pp. 395–396.
St. Louis, Mo.	Authorized Ford Dealers Association.	Ibid., p. 396.
St. Paul, Minn.	Twin City Ford Dealers Association.	Ibid., p. 376.
Building supplies dealers: Milwaukee, Wis.	Common agent	F. T. C., complaint, Docket 3631 (1938).
Cleaners and dyers:		
Albany, N. Y.	do	Handsaker, Morrison, op. cit., p. 72.
Boston, Mass.	do	Ibid.
Chicago, Ill.	Chicago Master Cleaners and Dyers Association.	Ibid., *passim*.
	Cleaners and Dyers Institute of Chicago.	
	Chicago Association of Cleaners and Dyers.	
	International Brotherhood of Teamsters, Local 712.	
	Cleaners, Dyers, and Pressers Union, Federal Local 17742.	
	Retail Cleaners and Dyers Union, Federal Local 17792.	
Minneapolis and St. Paul, Minn.	Cleaners and Dyers Institute of Minnesota.	Ibid., pp. 73–5.
Montgomery, Ala.	No formal organization	Ibid., pp. 71–2.
Sacramento, Calif.	Sacramento Cleaners and Dyers Association.	Ibid., p. 71.
Seattle, Wash.	Allied Cleaners and Dyers of Seattle.	F. A. L., case 327 (1927).
Washington, D. C.	No formal organization	F. A. L., case 358 (1929).

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940—Continued

Trade and locality	Group	Reference
Coal retailers:		
California communities	California Retail Fuel Dealers Association.	F. T. C., order, Docket 1098 (1925).
Midwestern communities	Midwest Retail Coal Association	F. T. C., order, Docket 1118 (1926).
Northwestern communities.	Northwestern Traffic and Service Bureau.	F. T. C., order, Docket 1196 (1926).
Richmond, Va	Retail Coal Merchants Association	F. T. C., complaint, Docket 3911 (1939).
Carpenters: Detroit, Mich	District Council of the United Brotherhood of Carpenters of Detroit.	F. T. C., Report to the President on monopolistic practices and other unwholesome methods of competition (typescript), Ch. 6.
Drug retailers: New York City	New York Pharmaceutical Conference, Inc.	F. T. C., order, Docket 1392 (1923).
Electrical contractors:		
Detroit, Mich	Detroit Electrical Contractors Association. International Brotherhood of Electrical Workers, Local 58.	*U. S.* v. *Brooker Engineering Co. et. al.*, District Court of the U. S., E. D. of Mich., indictment, Mar. 21, 1940; F. T. C., Report to the President, op. cit.
New Orleans, La	New Orleans, La., Chapter of National Electrical Contractors Association.	F. A. L., cases 465, 492 (1940).
Pittsburgh, Pa	Electrical Contractors Association of Pittsburgh. International Brotherhood of Electrical Workers, Local 5.	*U. S.* v. *William F. Hess et al.*, District Court of the U. S., W. D. of Pa., indictment, Nov. 3, 1939.
San Francisco, Calif	San Francisco Electrical Contractors Association. Electrical Contractors Association of Alameda & Contra Costa Counties.	*U. S.* v. *San Francisco Electrical Contractors Association*, District Court of the U. S., N. D. of Calif., S. Div., indictment, Dec. 18, 1939.
San Pedro, Calif	Harbor District Chapter, National Electrical Contractors Association. International Brotherhood of Electrical Workers, Local B-83.	*U. S.* v. *Harbor District Chapter, National Electrical Contractors Association et. al.*, District Court of the U. S., S. D. of Calif., Central Div., indictment, Feb. 16, 1940.
Santa Barbara, Calif	Santa Barbara County Chapter, National Electrical Contractors Association. International Brotherhood of Electrical Workers, Local 413.	*U. S.* v. *Santa Barbara County Chapter, National Electrical Contractors Association*, District Court of the U. S., S. D. of Calif., Central Div., indictment, Feb. 28, 1940.
Electrical supplies dealers: Detroit, Mich.	Common agent	*U. S.* v. *Cadillac Electric Supply Co. et al.*, District Court of the U. S. E. D. of Mich., S. Div., indictment, Dec. 22, 1939.
Electrical supplies manufacturers and contractors:		
Chicago, Ill	International Brotherhood of Electrical Workers, Local 134.	*U. S.* v. *Beardslee Chandelier Manufacturing Co., et al.*, District Court of the U. S., N. D. of Ill., E. Div., indictment, Feb. 14, 1940.
New York City	International Brotherhood of Electrical Workers, Local 3.	*U. S.* v. *Local Union No. 3, International Brotherhood of Electrical Workers et al.*, District Court of the U. S., S. D. N. Y., indictment, Mar. 1940.
	New York Electrical Contractors Association, Inc. Heating, Piping, and Air Conditioning Contractors, New York City Association, Inc. Association of Contracting Plumbers of the City of New York, Inc. Building Trades Employers Association of the City of New York.	*U. S.* v. *New York Electrical Contractors Association, Inc., et al.*, District Court of the U. S., S. D. of N. Y., indictment, Mar. 28, 1940.
Excavating contractors: Washington, D. C.	Excavators Administrative Association, Inc.	*U. S.* v. *Excavators Administrative Association, Inc., et al.*, District Court of the U. S., D. of C., consent decree, Dec. 22, 1939.

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940—Continued

Trade and locality	Group	Reference
Fish and seafood dealers: New York City.	Fish Credit Association, three other trade associations and one union.	F. A. L., case 389 (1933).
	Fish Purchasing Corporation	F. A. L., cases 304 (1925), 311 (1926).
Fresh fruit and vegetable dealers:		
Chicago, Ill	Market Service Association	F. T. C., Report to the President. * * *, op. cit., pp. 492–504.
	Chicago Commission Team Owners Association.	
	Chicago Potato Division of the American Fruit and Vegetable Shippers' Association.	F. T. C., Agricultural Income Inquiry (1937), Part I, pp. 609–10.
	International Brotherhood of Teamsters, Local 703.	Ibid., pp. 660–2.
New York City	Fresh Fruit and Vegetable Association of New York.	F. A. L., case 392 (1933), indictment.
	International Brotherhood of Teamsters, Local 202.	F. A. L., case 393 (1938), indictment.
	Market Truckmen's Association	F. A. L., case 392 (1933), indictment; F. T. C., Report to the President * * *, op. cit.
	Fruit and Produce Trade Association of New York.	F. T. C., op. cit.
	New York Fruit and Vegetable Exchange.	
Philadelphia, Pa	Perishable Fruit and Produce Haulers' Association.	Ibid.
	Philadelphia Perishable Carlot Receivers' Association.	
	National League of Wholesale Fresh Fruit and Vegetable Distributors.	
	Fruit Auction Buyers' Association.	
	Buyers Protective Association.	
Seattle, Wash	Seattle Produce Association	F. A. L., case 289 (1924).
Furniture retailers: St. Louis, Mo.	Retail Furniture Dealers' Association of St. Louis.	F. T. C., order, Docket 2757 (1936).
Gasoline retailers:		
Several communities	National Association of Petroleum Retailers.	Hearings before the T. N. E. C. Part 16, pp. 9040 ff.
Canton, Ohio	Distributors' association	Ibid.
General contractors: New Orleans, La.	New Orleans Chapter, Associated General Contractors of America, Inc.	*U. S.* v. *New Orleans Chapter, General Contractors of America, Inc.*, District Court of the U. S., E. D. of La., New Orleans Div., consent decree, Jan. 15, 1940.
Glaziers:		
Chicago, Ill	Glaziers Local Union No. 27	F. A. L., case 345 (1928).
	Glass Contractors' Association	*U. S.* v. *Glass Contractors' Association, et al.*, District Court of the U. S., N. D., of Ill., E. Div., indictment, May 10, 1940.
	Glaziers' Local No. 27 of the Brotherhood of Painters, Decorators, and Paperhangers of America.	
Cleveland, O	Painters, Decorators, Paperhangers, Glaziers Local No. 181.	*U. S.* v. *Glaze-Rite, et al.*, District Court of the U. S., N. D. of Ohio, E. Div., indictment, Nov. 10, 1939.
Indianapolis, Ind	Brotherhood of Painters, Decorators, and Paperhangers of America.	F. T. C., order, Docket 3858 (1940).
	Glaziers Local No. 1165	
	District Council No. 27	
Grape dealers: Chicago, Ill	Santa Fe Grape Dealers of Chicago	F. T. C., Agricultural Income Inquiry, Part II, p. 618.
Grocery retailers: Milwaukee, Wis.	Milwaukee Jewish Kosher Delicatessen Association.	F. T. C., complaint, Docket 3908 (1940).
Hardware retailers:		
Several communities	National Retail Hardware Association and affiliated regional and local associations.	F. T. C., Report on the House Furnishings Industries (1925) vol. 3, pp. 224–247.
California communities	California Retail Hardware and Implement Association.	F. A. L., case 320 (1927).
Hardwood flooring contractors:		
San Francisco, Calif	San Francisco Hardwood Floor Contractors Association.	*U. S.* v. *San Francisco Hardwood Floor Contractors Association, et al.*, District Court of the U. S., N. D. of Calif., S. Div., indictment, Dec. 20, 1939.
	Hardwood Floor Institute.	
San Fransisco Bay region	Common agents	*U. S.* v. *E. L. Bruce Co., Inc., et al.*, District Court of the U. S., N. D. of Calif., S. Div., indictment, Dec. 20, 1939.

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940—Continued

Trade and locality	Group	Reference
Heating contractors:		
Los Angeles and Pasadena, Calif.	Heating, Piping, and Air Conditioning Contractors Association of Southern California.	*U. S.* v. *Heating, Piping, and Air Conditioning Contractors Association of Southern California*, District Court of the U. S., S. D. of Calif., Central Div. indictment, Jan. 26, 1940.
New York communities	New York State Sheet Metal Roofing and Air Conditioning Contractors Association.	F. T. C., order, Docket 2931 (1937).
Pittsburgh, Pa.	Voluntary Code of the Heating, Piping, and Air Conditioning Industry for Allegheny County, Pa. United Association of Steam, Hot Water * * * and Process Pipe Fitters, Local 449.	*U. S.* v. *Voluntary Code of the Heating, Piping, and Air Conditioning Industry for Allegheny County, Pa.*, District Court of the U. S., W. D. of Pa., consent decree, Dec. 8, 1939.
Seattle, Wash.	Associated Plumbing and Heating Merchants; United Association of Journeymen Plumbers and Steamfitters, Local 473.	*U. S.* v. *Associated Plumbing and Heating Merchants et al.*, District Court of the U. S., W. D. of Wash., indictment, Apr. 27, 1940.
Ice dealers:		
Kansas City, Mo.	No formal organization	F. A. L., case 400 (1934).
Washington, D. C.	National Capital Ice Institute	F. T. C., complaint, Docket 3946 (1939).
Lathers: New York City	Wood, Wire, and Metal Lathers' International Union, Local No. 46.	*U. S.* v. *Wood, Wire, and Metal Lathers' International Union, Local No. 46, et al.*, District Court of the U. S., S. D. of N. Y., indictments, May 10, 1940.
Linen supply companies: Washington, D. C.	Linen Supply Association of the District of Columbia.	F. T. C., order, Docket 2256 (1935).
Liquor dealers: Washington, D. C.	D. C. Exclusive Retail Liquor Dealers Association. Wholesale Liquor Dealers of Washington.	F. T. C., order, Docket 3400 (1940).
Lumber and millwork companies:		
Chicago, Ill.	United Brotherhood of Carpenters and Joiners of America.	F. A. L., case 240 (1921).
Pittsburgh, Pa.	Lumber Institute of Allegheny County. Master Builders Association United Brotherhood of Carpenters and Joiners of America and Local 422. Carpenters District Council of Pittsburgh and Vicinity.	*U. S.* v. *Lumber Institute of Allegheny County*, District Court of the U. S., W. D. of Pa., indictment, Feb. 23, 1940.
Long Beach, Cal.	Harbor District Lumber Dealers Association.	*U. S.* v. *Harbor District Lumber Dealers Association*, District Court of the U. S., S. D. of Calif., Central Div., indictment, Mar. 15, 1940.
Marble contractors:		
Northern California communities.	Associated Marble Companies	*U. S.* v. *Associated Marble Companies et al.*, District Court of the U. S., N. D. of Calif., Central Div., indictment, June 17, 1940.
Pittsburgh, Pa.	Marble Contractors Association Joint Arbitration Board for the Marble Industry. Bricklayers, Masons, and Plasterers International Association of America, Local 33.	*U. S.* v. *Marble Contractors Association et al.*, District Court of the U. S., W. D. of Pa., consent decree, Feb. 29, 1940.
Southern California Communities.	Southern California Marble Association.	*U. S.* v. *Southern California Marble Association et al.*, District Court of the U. S., S. D. of Calif., Central Div., indictment, Feb. 16, 1940.
Mason contractors: Washington, D. C.	Mason Contractors Association of the District of Columbia.	*U. S.* v. *Mason Contractors Association of the District of Columbia*, District Court of the U. S. D. of C., consent decree, Mar 12, 1940.
Medical services: Washington, D. C.	American Medical Association Medical Society of the District of Columbia. Washington Academy of Surgery	F. A. L., case 441 (1938), indictment.

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940—Continued

Trade and locality	Group	Reference
Milk distributors:		
Chicago	Associated Milk Dealers, Inc. Pure Milk Association Milk Dealers Bottle Exchange International Brotherhood of Teamsters, Milk Wagon Drivers Local 753.	*U. S.* v. *The Borden Co., et al.*, District Court of the U. S., N. D. of Ill., indictment, Nov. 1, 1938.
Detroit, Mich	Metropolitan Detroit Milk Dealers, Inc.	Hearings before the T. N. E. C. Part 7, p. 3225.
Honolulu, Hawaii	Milk Council	F. A. L., case 426 (1937), indictment.
Painters and painting contractors:		
Chicago, Ill	Painters District Council No. 14 and other painters' unions.	F. A. L., case 349 (1928).
St. Louis, Mo	Painters District Council No. 2 and other painters' unions.	F. A. L., case 372 (1930).
Washington, D. C	Union Painters Administrative Association, Inc.	*U. S.* v. *Union Painters Administrative Association, Inc., et al.*, District Court of the U. S., D. of C., consent decree, Dec. 22, 1939.
Plastering contractors and plaster dealers:		
Detroit, Mich	Detroit Plasterers Contractors Association. Operative Plasterers and Cement Finishers International Association, local union.	F. T. C., Report to the President, loc. cit.
Long Beach, Calif	Contracting Plasterers Association of Long Beach, Inc. Contracting Lathing Association of Long Beach. Harbor Material Dealers, Inc. Operative Plasterers * * * International Union, Local 343. Wood, Wire, and Metal Lathers International Union, Local 172. International Hod Carriers * * * Union of America, Local 507.	*U. S.* v. *Contracting Plasterers Association of Long Beach, Inc., et al.*, District Court of the U. S., S. D. of Calif., indictment, Feb. 2, 1940.
Pittsburgh, Pa	Employing Plasterers Association of Allegheny County. Operative Plasterers International Association, Journeymen Plasterers Local 31. Wood, Wire, and Metal Lathers International Union, Local 33.	*U. S.* v. *Employing Plasterers Association of Allegheny County, et al.*, District Court of the U. S., W. D. of Pa., consent decree, Mar. 18, 1940.
St. Louis, Mo	Contracting Plasterers Association Lathers Union local. Plasterers Union local.	F. T. C., Report to the President * * * loc. cit.
San Francisco, Calif	Master Plasterers Association of San Francisco. Operative Plasterers International Union, Local 66.	*U. S.* v. *Master Plasterers Association of San Francisco, et al.*, District Court of the U. S., N. D. of Calif., S. Div., consent decree, Dec. 22, 1939.
Plumbing contractors:		
Several communities	National Association of Master Plumbers of the United States and affiliated state, county, and city associations.	*U. S.* v. *Central Supply Association, et al.*, District court of the U. S., N. D. of Ohio, indictment, Mar. 29, 1940.
Chicago, Ill	Chicago Master Plumbers Association. Voluntary Trade Agreement of the Plumbing Contractors Division of the Construction Industry of Cook County, Ill. Journeymen Plumbers Union, Chicago local.	F. T. C., Report to the President * * * loc. cit.
Detroit, Mich	Master Plumbers Contracting Association. Plumbing and Heating Union local.	Ibid.
Washington, D. C	Plumbing and Heating Industries Administrative Association, Inc. United Association of Steamfitters and Helpers, Local 602.	*U. S.* v. *Plumbing and Heating Industries Administrative Association, Inc., et al.*, District Court of the U. S., D. of C., consent decree, Dec. 22, 1939.

Trade associations, trade unions, and other groups said to be exercising some form of control over production, price and terms of sale, and organizing boycotts in local markets from 1920 to 1940—Continued

Trade and locality	Group	Reference
Poultry dealers: New York City.	Live Poultry Dealers Protective Association.	F.A. L., case 279 (1924).
	Greater New York Live Poultry Chamber of Commerce.	F. A. L., cases 356 (1929), 368 (1930), 391 (1933).
Sand and gravel producers: New York City	Long Island Sand & Gravel Producers Association.	F. A. L., cases 461, 522 (1940).
	Nassau County Sand & Gravel Producers Credit Association.	
Pittsburgh, Pa	Western Pennsylvania Sand & Gravel Association.	*U. S.* v. *The Western Pennsylvania Sand and Gravel Association, et al.*, District Court of the U. S., W. D. of Pa., consent decree, Feb. 21, 1940.
Sheet metal contractors: New Orleans, La.	Sheet Metal Association	F. A. L., cases 466, 485 (1940).
Stone fabricators: Chicago, Ill	Journeymen Stone Cutters Association of North America, Chicago local.	*U. S.* v. *Chicago and Cook County Building and Construction Trades Council, et al.*, District Court of the U. S., N. D. of Ill., indictment, Feb. 1, 1940.
	Chicago and Cook County Building and Construction Trades Council.	
New York City	Journeymen Stone Cutters Association of North America, 5 local stonecutting and setting unions and building trades council.	F. A. L., case 323 (1927).
Tile contractors: Detroit, Mich	Tile Contractors Association of America.	F. A. L., cases 462, 540 (1940).
	Detroit Tile Contractors Association.	
	Greater Detroit Tile Contractors Association.	
	Bricklayers, Masons, and Plasterers International Union, Local 32.	
	International Association of Marble, Stone and Slate Polishers. * * *, Local 40.	
Chicago, Ill	Chicago Mantel & Tile Contractors Association.	F. A. L., cases 478, 528, 531 (1940).
	Bricklayers, Masons, and Plasterers International Union, Local 67.	
Pacific northwest communities.	Northwest Tile and Mantel Contractors Association.	F. T. C., order, Docket 1764 (1930).
Pittsburgh, Pa	Pittsburgh Tile & Mantel Contractors Association.	*U. S.* v. *Pittsburgh Tile and Mantel Contractors Association, et. al.*, District Court of the U. S., W. D. of Pa., consent decree, Feb. 29, 1940.
	Joint Arbitration Board for the Tile Industry.	
	Bricklayers, Masons, and Plasterers International Union, Tile Setters local.	
St. Louis, Mo	St. Louis Tile Contractors Association, Tile Layers Local Union No. 18.	*U. S.* v. *St. Louis Tile Contractors Association, et al.*, District Court of the U. S., E. D. of Mo., E. Div., consent decree, July 1, 1940.
Tobacco retailers: Chicago, Ill	Retail Tobacco Dealers of America, Inc., Chicago branch.	F. T. C., Agricultural Income Inquiry, Part I, pp. 542–6.
New York City	New York Retail Tobacco Council	Ibid., pp. 528–34.
Other communities	Retail Tobacco Dealers of America	Ibid., pp. 525–6.
Truckers: New York–Philadelphia	Motor Freight Transportation Association.	F. A. L., case 380 (1931).
New York City	International Brotherhood of Teamsters, Local 202.	F. A. L., case 412 (1936), indictment.
Sewer pipe dealers: Rochester, N. Y.	Rochester Builders Supply Association.	F. T. C., complaint, Docket 4034 (1940).
Wine bottlers: New York City	Wine, Liquor, and Distillery Workers Union, Local 20244.	F. A. L., cases 445, 458 (1939), indictment.

RETAIL TRADES

Competition among retailers in each of a number of local markets has frequently been suppressed through the efforts of associations organized on a regional and national scale. The Federal Trade Commission reported, in 1925, that retailers of hardware, united in local, State, and national associations, numbering more than 22,000 members, had undertaken, in many cases, to prevent manufacturers from selling to price-cutting mail order houses and to prevent manufacturers and wholesalers from selling directly to consumers, by organizing boycotts against them and by threatening to do so; that they had circulated "price books" containing "suggested resale prices" that were held to be "scientifically correct"; and that they had held meetings where prices were discussed, price cutters were brought to a better understanding of "business ethics" and "problems of competition" were "ironed out".[49] The Commission also reported in 1929, that retailers of drugs had long followed the practice of marking prices on copies of prescriptions by employing the code word "pharmocist" or "pharmecist" in which, by eliminating one duplication, the successive letters were made to stand for the numerals 1 to 9, the last letter representing zero, thus compelling the customer who took a prescription to a second druggist to be refilled to inform him, inadvertently, concerning the price charged by the first.[50] The pressure that has induced legislatures to enact "fair trade" laws and compelled manufacturers to sign resale price maintenance contracts has come, in the main, from an association representing retailers of drugs. The pressure that has persuaded legislatures to enact "unfair practice" and chain store tax laws has come, largely, from associations representing retailers of groceries. Members of both trades have attempted, through such measures, to make it difficult for their more powerful rivals to compete on the basis of price.

Local associations of automobile dealers have employed a variety of devices for the purpose of restricting competition, principally by controlling trade-in allowances. They have used common appraisal sheets. They have operated secret appraisal bureaus through which they have exchanged reports on their allowances. In some cases a second bidder has been free to exceed another's bid. In others he has been prohibited from doing so or required to make a lower bid. In still others he has been discouraged from raising an earlier bid by a rule which compelled him to offer an amount so much higher that it would seriously impair his profit on the sale. Under some of these plans observance is voluntary. Under others it is enforced by requiring members to make deposits against which fines can be imposed. Under one scheme dealers who refuse to join and those who make allowances regarded as excessive are declared to be "outlaws" and members concentrate on taking sales away from them, successful bidders being reimbursed for losses from association funds. Other arrangements cover such matters as new car prices, discounts, rebates, accessories, and supplementary services which might be used as means of granting indirect concessions in making sales. Exclusive

[49] Federal Trade Commission, Report on the House Furnishings Industry, vol. 3, pp. 224–247.

[50] Federal Trade Commission, Open-Price Trade Associations, pp. 48–49.

territories are commonly assigned to dealers in cars of the same make and the observance of territorial boundaries is enforced by penalties. The Federal Trade Commission in its investigation of the automobile industry in 1938 found such arrangements to be widely prevalent throughout the trade.[51]

Associations of retail dealers in gasoline ha e likewise undertaken to prevent price cutting. One of the more extreme measures employed for this purpose is the "blockade": the dealers' association sends several automobiles to the price cutter's filling station; each driver buys 1 gallon of gasoline, utilizes all of the free services of the station, and proffers a $20 or $50 bill in payment; "blockaders" jam the station and customers are unable to drive in. A circular letter sent out by the National Association of Petroleum Retailers instructs dealers in the use of this practice:

> If you have to use the blockade method be sure that it is friendly and peaceful, so as to prevent injunctions for disturbing the peace, or disorderly conduct, or assault, conducting yourselves as customers who are making small purchases and utilizing the free services which the station offers to the public, and block the driveways for a short time only—but during the busiest part of the day.

The Association also sought to raise prices. Its letter explains how this should be done: first make a small advance which will not be noticed by the public, then "you can make another advance later when others have followed your lead." [52]

Price fixing arrangement have also characterized the cleaning and dyeing trade in many communities. In Denver, Detroit, St. Louis, and Portland, Ore., and in certain localities in Iowa, where no provision was made for their enforcement, "gentlemen's agreements" establishing common charges have broken down. In the Twin Cities, the Cleaners and Dyers Institute of Minnesota succeeded for a time in maintaining a minimum price, issued an emblem to cooperating plants, and conducted an advertising compaign designed to convince consumers that cleaners displaying the emblem offered a superior quality of work. In Montgomery, Ala., the local association required members to cut prices sharply in order to bring individual price cutters back into line and imposed fines on those who violated their agreement. In Sacramento, Calif., association members put "a substantial deposit up for forfeit in the event they should break faith or violate the rules and regulations of their organization." In Albany, N. Y., cleaners maintained a minimum price of $1 during a period of business depression by cooperating in a contract plan. A common agent entered into one series of contracts which bound tailors to give him all their wholesale cleaning work and another which bound cleaners to do such work for him alone. The sole seller and the sole buyer of wholesale cleaning work, he was in a unique position to maintain the price. A similar plan was put into effect in Boston, Mass.[53]

BUILDING CONSTRUCTION

Competition in the construction industry in many urban areas has been restrained by the activities of associations of dealers in various

[51] Federal Trade Commission, Motor Vehicle Industry, 1939, pp. 117–121, 369–400.
[52] Hearings before the Temporary National Economic Committee, Part 16, pp. 9308–9309.
[53] Handsaker, op. cit., pp. 68–75.

building materials, by the operation of rings of subcontractors or, less frequently, general contractors, and by the practices of trade unions.

The dealer groups have sought to confine the distribution of building materials to "regular" channels, to establish common prices, and in some cases to effect a division of the market. Members of associations at various stages of the distributive process have agreed to limit their purchases and sales to members of associations at the preceding and following stages. Combinations of dealers have employed the boycott as a means of compelling producers to sell and consumers to buy exclusively through them. They have refused or threatened to refuse to buy from manufacturers who were selling to mail order houses, contractors, consumers, or governmental agencies, and they have refused or threatened to refuse to sell to contractors and others who were buying outside the "regular" channels. They have also made use of the boycott in disciplining their own members, refusing to buy from manufacturers who were selling to dealers who had failed to adhere to the prices they had fixed. Boycotts or threats of boycotts have been employed by hot air furnace dealers in New York,[54] lumber dealers in California,[55] and building supplies dealers in many sections of the country,[56] and it is charged in indictments recently returned under the Sherman Act that they have been used by marble dealers in southern California,[57] and by plumbing supplies dealers throughout the United States.[58] Groups of dealers have frequently negotiated price agreements at trade meetings, establishing a fixed mark-up between invoice cost and selling price, promising to adhere to some recognized price list, or conspiring with groups of manufacturers to set up a joint system of price control. Such agreements have been found to exist at various times among sand and gravel dealers in New York City[59] and in Pittsburgh,[60] plumbing supplies dealers in the Chicago area[61] and in Virginia,[62] and tile dealers in New York City,[63] and are alleged to have existed recently among sand and gravel dealers in New York,[64] sewer pipe dealers in Rochester,[65] building supplies dealers in Milwaukee,[66] electrical supplies dealers in Detroit,[67] lumber dealers in Pittsburgh,[68] hardwood flooring dealers in Seattle,[69] and in the San Francisco Bay area,[70] and

[54] Federal Trade Commission Order, Docket 2931 (1937).
[55] Federal Trade Commission Order, Docket 2898 (1938).
[56] Federal Trade Commission Orders, Dockets 2191 (1937) and 2857 (1938).
[57] *U. S.* v. *Southern California Marble Association et al.*, District Court of the United States, Southern District of California, Indictment, February 16, 1940.
[58] *U. S.* v. *Central Supply Association et al.*, op. cit.
[59] Federal Antitrust Laws, cases 220, 222.
[60] *U. S.* v. *Western Pennsylvania Sand and Gravel Association et al.*, District Court of the United States, Western District of Pennsylvania, Consent Decree, February 21, 1940.
[61] F. A. L., case 234.
[62] F. A. L., case 310.
[63] F. A. L., case 239.
[64] *U. S.* v. *Long Island Sand and Gravel Producers' Association et al.*, District Court of the United States, Southern District of New York, Indictment, November 22, 1939. (The association and its members pleaded *nolo contendere* on May 24, 1940, and fines were imposed.)
[65] Federal Trade Commission Complaint, Docket 4034 (1940).
[66] Federal Trade Commission Complaint, Docket 3631 (1938).
[67] *U. S.* v. *Cadillac Electric Supply Co. et al.*, District Court of the United States, Eastern District of Michigan, Southern Division, Indictment, December 22, 1939.
[68] *U. S.* v. *Lumber Institute of Allegheny County et al.*, District Court of the United States, Western District of Pennsylvania, Indictment, February 23, 1940.
[69] *U. S.* v. *Kelly-Goodwin Hardwood Co. et al.*, District Court of the United States, Western District of Washington, Indictment, April 27, 1940.
[70] *U. S.* v. *E. L. Bruce Co. et al.*, op. cit.

lumber dealers [71] and plaster and plastering materials dealers [72] in the harbor district of California. Members of dealers' associations have sometimes gone beyond mere price-fixing to agree upon a division of the market, assigning to each of their number a certain percentage of the total business, or assigning certain customers to certain firms. Markets have been shared in this way by lumber dealers in the coast counties of California [73] and are alleged to have been shared by lumber dealers in the harbor district,[74] by marble dealers in southern California,[75] by glass distributors in northern California [76] and in Chicago,[77] and by steel sash dealers in Cleveland.[78]

Local rings of subcontractors in the various branches of the building trades have concerned themselves principally with the determination of the bids submitted by their members and with the allocation of contracts among them. In some cases, such a group operates a central estimating bureau which either maintains a uniform costing system and circulates specifications for the material and labor to be included in each job, thus enabling all of its members to arrive at the same bid, or itself calculates the cost of jobs and tells its members what to charge. Since identical bids result, contract-letting authorities are forced to award contracts by lot and every member of the bidding group is ultimately afforded an equal share in the market, each of them accepting the particular jobs that come to him by chance. In other cases, the group determines in advance which of its members is to get a job and so arranges the bids that his is lower than the rest. In still others, it maintains a depository where copies of estimates and bids are filed. Here members may open, read, and revise their bids before submitting them to architects or general contractors. They may raise the level of these bids by making certain that they conform to prescribed prices for materials, labor, and overhead, or by requiring that an arbitrary sum be added to each. They may allocate contracts according to some general rule, making the lowest bidder withdraw his bid and submit a new one higher than the highest, averaging the bids and throwing out those that fall more than 10 percent below the average, or assigning each job to the bidder whose bid comes closest to the average and requiring those whose bids fall below this figure to submit new bids to exceed it. Or they may merely decide which of their number is to receive each contract and rig the bids accordingly. Practices such as these have been found to exist among plumbing contractors in Chicago,[79] among plumbing contractors and plastering contractors in Detroit,[80] among plastering contractors, tile contractors,[81] and

[71] *U. S.* v. *Harbor District Lumber Dealers' Association et al.*, District Court of the United States, Southern District of California, Central Division; Indictment, March 15, 1940.
[72] *U. S.* v. *Contracting Plasterers' Association of Long Beach, Inc.*, District Court of the United States, Southern District of California, Indictment, February 2, 1940.
[73] Federal Trade Commission Order, Docket 2898 (1938).
[74] *U. S.* v. *Harbor District Lumber Dealers' Association et al.*, op. cit.
[75] *U. S.* v. *Southern California Marble Association et al.*, op cit.
[76] *U. S.* v. *W. P. Fuller & Co. et al.*, District Court of the United States, Northern District of California, Southern Division, Indictment, March 15, 1940.
[77] *U. S.* v. *Glass Contractors' Association et al.*, District Court of the United States, Northern District of Illinois, Eastern Division, Indictment, May 10, 1940.
[78] *U. S.* v. *Glaze-Rite et al.*, District Court of the United States, Northern District of Ohio, Eastern Division, Indictment, November 10, 1930.
[79] Federal Trade Commission, Report to the President on Monopolistic Practices and Other Unwholesome Methods of Competition (typescript), ch. 6.
[80] Ibid.
[81] *U. S.* v. *St. Louis Tile Contractors Association et al.*, District Court of the United States, Eastern District of Missouri, Eastern Division, Consent .ecree, July 1, 1940.

glazing contractors[82] in St. Louis, among plastering,[83] marble,[84] tile,[85] and heating, piping, and air conditioning[86] contractors in Pittsburgh, and among plumbing and heating,[87] mason,[88] excavating,[89] and painting[90] contractors in Washington, D. C., and are alleged to have existed among glazing contractors in Chicago,[91] heating contractors in Seattle,[92] sheet metal, built-up roofing, and air conditioning contractors in New Orleans,[93] marble contractors in Northern California,[94] heating, piping, and air conditioning contractors in Southern California,[95] plastering contractors in the Long Beach area,[96] and hardwood flooring contractors in San Francisco,[97] and among electrical contractors in Pittsburgh,[98] New Orleans,[99] and Detroit,[1] and in the San Francisco,[2] San Pedro,[3] and Santa Barbara[4] areas of California.

In a few cases, contractor groups appear to have gone beyond mere price-fixing to establish profit pools. It has recently been found,[5] for instance, that general contractors in New Orleans had agreed to add to their estimates sums sufficient to enable successful bidders to reimburse unsuccessful bidders for costs assertedly incurred in connection with their bids. It is also charged in current indictments that pooling arrangements have existed among electrical contractors in New Orleans[6] and Detroit.[7] In the former case, 14 firms, handling

[82] Federal Trade Commission Order, Docket 3491 (1938).

[83] *U. S.* v. *Employing Plasterers' Association of Allegheny County et al.*, District Court of the United States, Western District of Pennsylvania, Consent Decree, March 18, 1940.

[84] *U. S.* v. *Marble Contractors' Association et al.*, District Court of the United States, Western District of Pennsylvania, Consent Decree, February 29, 1940.

[85] *U. S.* v. *Pittsburgh Tile and Mantel Contractors' Association et al.*, District Court of the United States, Western District of Pennsylvania, Consent Decree, February 29, 1940.

[86] *U. S.* v. *Voluntary Code of the Heating, Piping, and Air Conditioning Industry for Allegheny County, Pa.*, District Court of the United States, Western District of Pennsylvania, Consent Decree, December 8, 1939.

[87] *U. S.* v. *Plumbing and Heating Industries Administrative Association, Inc., et al.*, District Court of the United States, District of Columbia, Consent Decree, December 22, 1939.

[88] *U. S.* v. *Mason Contractors' Association of the District of Columbia et al.*, District Court of the United States, District of Columbia, Consent Decree, March 12, 1940.

[89] *U. S.* v. *Excavators Administrative Association, Inc., et al.*, District Court of the United States, District of Columbia, Consent Decree, December 22, 1939.

[90] *U. S.* v. *Union Painters Administrative Association, Inc., et al.*, District Court of the United States, District of Columbia, Consent Decree, December 22, 1939.

[91] *U. S.* v. *Glass Contractors' Association et al.*, op. cit.

[92] *U. S.* v. *Associated Plumbing and Heating Merchants et al.*, District Court of the United States, Western District of Washington, Indictment, April 27, 1940.

[93] *U. S.* v. *Sheet Metal Association, Inc.*, District Court of the United States, Eastern District of Louisiana, Indictment, December 12, 1939. (The association pleaded *nolo contendere* on February 5, 1940, and was fined.)

[94] *U. S.* v. *Associated Marble Companies et al.*, District Court of the United States, Northern District of California, Central Division, Indictment, June 17, 1940.

[95] *U. S.* v. *Heating, Piping, and Air Conditioning Contractors' Association of Southern California et al.*, District Court of the United States, Southern District of California, Central Division, Indictment, January 26, 1940.

[96] *U. S.* v. *Contracting Plasterers' Association of Long Beach, Inc., et al.*, op. cit.

[97] *U. S.* v. *San Francisco Hardwood Floor Contracting Association, et al.*, District Court of the United States, Northern District of California, Southern Division, Indictment, December 20, 1939.

[98] *U. S.* v. *William F. Hess, et al.*, District Court of the United States, Western District of Pennsylvania, Indictment, November 3, 1939.

[99] *U. S.* v. *Engineering Survey & Audit Co., Inc., et al.*, District Court of the United States, Eastern District of Louisiana, Indictment, December 12, 1939. (The defendants pleaded *nolo contendere* on January 12, 1940, and fines were imposed.)

[1] *U. S.* v. *Brooker Engineering Co., et al.*, District Court of the United States, Eastern District of Michigan, Indictment, March 12, 1940.

[2] *U. S.* v. *San Francisco Electrical Contractors' Association, Inc., et al.*, District Court of the United States, Northern District of California, Southern Division, Indictment, December 18, 1939.

[3] *U. S.* v. *Harbor District Chapter, National Electrical Contractors' Association et al.*, District Court of the United States, Southern District of California, Central Division, Indictment, February 16, 1940.

[4] *U. S.* v. *Santa Barbara County Chapter, National Electrical Contractors' Association et al.*, District Court of the United States, Southern District of California, Central Division, Indictment, February 28, 1940.

[5] *U. S.* v. *New Orleans Chapter, Associated General Contractors of America, Inc.*, District Court of the United States, Eastern District of Louisiana, New Orleans Division, Consent Decree, January 15, 1940.

[6] *U. S.* v. *Engineering Survey & Audit Co., Inc., et al.*, op. cit.

[7] *U. S.* v. *Brooker Engineering Co. et al.*, op. cit.

about 80 percent of the city's electrical contracting business, are said to have entered into a "joint venture arrangement" under which the profits made by each of them were shared with all of the others. Such a plan would be equivalent, on a local scale, to the highest development of the cartel.

Subcontractor groups have sought not only to compel their members to adhere to their price-fixing plans, but also to cripple or eliminate their competitors by excluding outside contractors from the local market, by preventing the employment of nonmembers, by forbidding builders to use prefabricated products or materials produced by outsiders, by forcing them to make their purchases through "regular" channels, and in some cases by requiring them to use materials which the members of the group control. To these ends, a variety of sanctions has been employed. Associations of subcontractors have levied fines on members who have violated association rules, organized boycotts against producers and distributors who have sold to them, and arranged with trade unions to deprive them of labor. Members of such associations have harassed nonmembers by circulating false rumors concerning their ability to obtain materials or credit, by obtaining open accounts owned by them and instituting suits for collection, by persuading unions to provide them with incompetent workmen or to order their employees to loaf on the job, and by threatening them with violence and damaging their work. They have cut nonmembers off from markets by declining to submit bids to general contractors who have accepted bids from them, by refusing to work on jobs where prefabricated products or materials produced by outsiders have been used or where nonmembers of subcontractor groups have been employed, and by procuring the enactment of restrictive laws and ordinances. Many jurisdictions now require State and local authorities to let contracts for public construction, by preference, to resident firms. One State rates bidders on private as well as public work according to vague standards which can be employed to deny an outside firm the right to bid.[8] Municipal ordinances give boards of contractors authority to license and register members of the trade, and with it the power to discipline them by refusing or withdrawing the right to do business. Building ordinances, ostensibly designed to eliminate health and safety hazards, sometimes contain provisions which operate to exclude material produced by outsiders from the local market and to compel builders to use materials controlled by local firms. It is said, moreover, that building inspectors have often been in league with rings of local contractors.[9] Subcontractor associations have also contrived to cut nonmembers off from supplies of material and labor by entering into agreements with associations of producers and distributors which bind these groups to sell exclusively to members, by entering into similar agreements with trade unions which bind them to provide labor exclusively to members, by boycotting or threatening to boycott dealers who have sold to nonmembers, and by persuading unions to call strikes against the jobs they have in hand. Exclusive dealing arrangements and boycotts have been employed as disciplinary measures by tile contractors in the Pacific Northwest [10] and are now said to have been employed by heating contractors in

[8] Hearings before the Temporary National Economic Commission, Part 11, p. 5151
[9] Ibid., p. 5167.
[10] Federal Trade Commission Order, Docket 1764 (1930).

Seattle,[11] tile contractors in Chicago[12] and Detroit,[13] electrical contractors in Detroit[14] and in the San Pedro area of California,[15] plastering contractors in the Long Beach area,[16] and marble[17] and heating, piping, and air conditioning[18] contractors in Southern California. Unions have been used as enforcement agencies among plastering contractors in Detroit,[19] among plastering[20] and tile[21] contractors in St. Louis, among plastering[22] marble,[23] and tile[24] contractors in Pittsburgh, and among plumbing and heating,[25] painting,[26] and excavating[27] contractors in Washington, D. C., and it is now charged that they have also been used among electrical contractors in Detroit,[28] Pittsburgh,[29] San Francisco,[30] Santa Barbara,[31] and San Pedro,[32] plastering contractors in San Francisco[33] and Long Beach,[34] tile contractors in Chicago[35] and Detroit,[36] glazing contractors in Chicago[37] and Cleveland,[38] hardwood flooring contractors in San Francisco,[39] heating contractors in Seattle[40] and in Southern California,[41] and plumbing contractors in many parts of the United States.[42]

To the restraints which they have enforced on behalf of subcontractor groups, craft unions in the building trades have added restraints of their own. In certain trades where members of the same union local work at successive stages of the productive process, those at the later stages have sometimes refused to work with materials which have not passed through the hands of their fellow members at an earlier stage. Electricians, for example, have refused to install any equipment but that manufactured, wired, or assembled in local plants employing members of their own union, thus conferring a monopolistic advantage on local firms. Electricians in New York[43]

[11] *U. S.* v. *Associated Plumbing and Heating Merchants et al.*, op. cit.
[12] *U. S.* v. *Mosaic Tile Co. et al.*, District Court of the United States, Northern District of Illinois, Indictment, January 15, 1940. (Defendants pleaded *nolo contendere* and fines were imposed on July 10, 1940.)
[13] *U. S.* v. *Wheeling Tile Co. et al.*, District Court of the United States, Eastern District of Michigan, Indictment, December 5, 1939. (Most of the defendants pleaded *nolo contendere* in July 1940 and fines were imposed.)
[14] *U. S.* v. *Brooker Engineering Co. et al.*, op. cit.
[15] *U. S.* v. *Harbor District Chapter, National Electrical Contractors' Association et al.*, op. cit.
[16] *U. S.* v. *Contracting Plasterers' Association of Long Beach, Inc., et al.*, op cit.
[17] *U. S.* v. *Southern California Marble Association et al.*, op cit.
[18] *U. S.* v. *Heating, Piping, and Air Conditioning Contractors' Association of Southern California et al.*, op. cit.
[19] Federal Trade Commission, Report to the President * * *, loc. cit.
[20] Ibid.
[21] *U. S.* v. *St. Louis Tile Contractors' Association et al.*, op. cit.
[22] *U. S.* v. *Employing Plasters' Association of Allegheny County et al.*, op. cit.
[23] *U. S.* v. *Marble Contractors' Association et al.*, op. cit.
[24] *U. S.* v. *Pittsburgh Tile and Mantel Contractors' Association et al.*, op. cit.
[25] *U. S.* v. *Plumbing and Heating Industries Administrative Association et al.*, op. cit.
[26] *U. S.* v. *Union Painters Administrative Association, Inc., et al.*, op. cit.
[27] *U. S.* v. *Excavators Administrative Association, Inc., et al.*, op. cit.
[28] *U. S.* v. *Brooker Engineering Co. et al.*, op. cit.
[29] *U. S.* v. *William F. Hess et al.*, op. cit.
[30] *U. S.* v. *San Francisco Electrical Contractors' Association, Inc., et al.*, op. cit.
[31] *U. S.* v. *Santa Barbara County Chapter, National Electrical Contractors' Association et al.*, op. cit.
[32] *U. S.* v. *Harbor District Chapter, National Electrical Contractors' Association et al.*, op. cit.
[33] *U. S.* v. *Master Plasterers' Association of San Francisco et al.*, District Court of the United States, Northern District of California, Southern Division, Consent Decree, December 22, 1939.
[34] *U. S.* v. *Contracting Plasterers' Association of Long Beach, Inc., et al.*, op. cit.
[35] *U. S.* v. *Mosaic Tile Co. et al.*, op. cit.
[36] *U. S.* v. *Wheeling Tile Co. et al.*, op. cit.
[37] *U. S.* v. *Glass Contractors Association et al.*, op. cit.
[38] *U. S.* v. *Glaze-Rite et al.*, op. cit.
[39] *U. S.* v. *San Francisco Hardwood Floor Contractors' Association et al.*, op. cit.
[40] *U. S.* v. *Associated Plumbing and Heating Merchants et al.*, op. cit.
[41] *U. S.* v. *Heating, Piping, and Air Conditioning Contractors' Association of Southern California et al.*, op. cit.
[42] *U. S.* v. *Central Supply Association et al.*, op. cit.
[43] *U. S.* v. *Local Union No. 3 of the International Brotherhood of Electrical Workers et al.*, District Court of the United States, Southern District of New York, Indictment, March 28, 1940.

and Chicago,[44] lathers in New York,[45] and carpenters in Chicago [46] and Pittsburgh [47] have engaged in such activity or are charged with having done so. Trade unions have also resisted the introduction of materials and processes which reduce the amount of work required of artisans at the building site. In some cases, a single union has prevented the use of prefabricated products by refusing to supply labor for jobs where they were to be employed, by calling strikes against jobs where they were introduced, and by threatening to do so. In others, a group of sympathetic unions has combined to apply such pressures. It is charged,[48] for example, that the Chicago local of the Journeymen Stone Cutters' Association of America and other unions affiliated with the Chicago and Cook County Building and Construction Trades Council refused to supply labor for construction projects where prefabricated limestone was to be employed, insisting that stone used in Chicago be cut, trimmed, and sized on the job rather than at the quarry where it originated, thus compelling builders to pay freight on stone removed in the process of fabrication. Similar practices have existed or are said to have existed among stone cutters [49] and electricians [50] in New York, among glaziers in Chicago,[51] Cleveland,[52] and St. Louis,[53] among painters in Chicago [54] and St. Louis,[55] and among plasterers in Pittsburgh.[56]

As these lines are written, the campaign initiated by the Department of Justice for the enforcement of the antitrust laws in the building trades is well under way. New indictments are being handed down and consent decrees accepted by trade and labor groups during each succeeding week. It seems probable that practices such as those described above are more widespread than even these prosecutions have revealed. The combined effect of the restraints imposed by associations of producers and distributors of materials, by rings of subcontractors, and by trade unions, must have been so to increase the cost of construction as seriously to limit the volume of building that could be done.

RACKETS

In several local trades, competition has been suppressed and monopolistic arrangements enforced by a resort to violence and intimidation. Thugs and gunmen, employed by racketeers, have damaged goods, destroyed them and interfered with their movement, broken windows, thrown bombs, demolished equipment, set fire to places of business, and assaulted, kidnaped, and even murdered tradesmen and their employees. This sort of terrorism pervaded the bootleg liquor traffic

[44] *U. S.* v. *Beardslee Chandelier Manufacturing Co., et al.*, District Court of the United States, Northern District of Illinois Eastern Division, Indictment, February 14, 1940.
[45] *U. S.* v. *Wood, Wire, and Metal Lathers International Union, Local No. 46, et al.*, District Court of the United States, Southern District of New York, Indictments, May 10, 1940.
[46] F. A. L., case 240.
[47] *U. S.* v. *Lumber Institute of Allegheny County et al.*, op. cit.
[48] *U. S.* v. *Chicago and Cook County Building and Construction Trades Council et al.*, District Court of the United States, Northern District of Illinois, Indictment, February 1, 1940.
[49] F. A. L., case 323.
[50] *U. S.* v. *New York Electrical Contractors' Association, Inc., et al.*, District Court of the United States, Southern District of New York, Indictment, March 28, 1940.
[51] F. A. L., case 345; *U. S.* v. *Glass Contractors' Association et al.*, op. cit.
[52] *U. S.* v. *Glaze-Rite et al.*, op. cit.
[53] Federal Trade Commission Order, Docket 3491 (1938).
[54] F. A. L., case 349.
[55] F. A. L., case 372.
[56] *U. S.* v. *Employing Plasterers' Association of Allegheny County et al.*, op. cit.

during the period of national prohibition. But it has by no means been confined to outlawed trades. It has existed for years in various branches of the construction industry in many urban areas [57] and has recently been alleged to exist among electrical contractors in San Pedro, Calif.,[58] among plastering contractors in Long Beach, Calif.,[59] and among glazing contractors in Cleveland, Ohio.[60] It has controlled the sale of artichokes in the city of New York.[61] It has been employed in the coercion of cleaners and dyers,[62] laundrymen,[63] barbers,[64] undertakers, [65] fur dressers,[66] window washers,[67] junkmen,[68] truckers,[69] operators of garages [70] and filling stations,[71] distributors of candy,[72] ice,[73] milk,[74] and soft drinks,[75] and dealers in fresh fruits and vegetables,[76] poultry,[77] and fish.[78] It has made its appearance in New York, Chicago, Philadelphia, Cleveland, Detroit, St. Louis, Kansas City, Washington, and the cities of the Pacific coast.

Among the most notorious of these rackets was the one which controlled the live poultry market in metropolitan New York. For many years a ring of 27 to 30 commission men fixed the price of chickens bought from producers in 40 States and the price of those sold to some 200 slaughterhouses and several hundred retailers in New York City. The consumers in this market are largely Jewish. The chickens they buy must be killed by ritual slaughterers known as schochets. The schochets are united in a trade union, as are the laborers who unload chickens from trains, those who load them into trucks, and those who haul them to slaughterhouses. In alliance with these four unions the ring was able to exclude other commission men from the market by denying them access to the supply of labor. It augmented its profits by granting one company a monopoly of the business of providing coops, another a monopoly of the business of selling chicken feed, and a third a monopoly of the trucking service. It compelled slaughterhouses and distributors to deal with these concerns by calling strikes against those who turned elsewhere for supplies or services. It prevented poultry from reaching the market through other channels by having trucks overturned, chickens fed sand and gravel and plaster of paris or sprinkled with poison or kerosene. Ex-convicts and plug-uglies policed the trade; 10 murders were committed within a period

[57] Cf. Luke Grant, "The National Erectors' Association and the International Association of Bridge and Structural Iron Workers," U. S. Commission on Industrial Relations, 1915, pp. 114–137; Royal E. Montgomery, Industrial Relations in the Chicago Building Trades (Chicago, 1927), ch. 11.

[58] *U. S.* v. *Harbor District Chapter, National Electrical Contractors Association et al.*, op. cit.

[59] *U. S.* v. *Contracting Plasterers Association of Long Beach, Inc., et al.*, op. cit.

[60] *U. S.* v. *Glaze-Rite Co. et al.*, op. cit.

[61] F. A. L., case 387.

[62] Handsaker, op. cit., passim; Gordon L. Hostetter and Thomas Q. Beesley, It's A Racket (Chicago, 1929), ch. 3.

[63] Hostetter and Beesley, op. cit., ch. 4.

[64] Ibid., pp. 154–155.

[65] Ibid., pp. 141–143.

[66] F. A. L., cases 265, 394, 395, 396.

[67] Hostetter and Beesley, op. cit., ch. 5.

[68] Ibid.

[69] F. A. L., cases 380, 412, 433, 447.

[70] Hostetter and Beesley, op. cit., ch. 8.

[71] Hearings before the Temporary National Economic Committee, Part 16, pp. 9040 ff.

[72] F. A. L., case 331.

[73] C. C. Linnenberg, Jr., The Price of Ice, N. R. A., Consumers' Division, Report No. 16 (mimeo., 1935), pp. 76–79.

[74] *U. S.* v. *The Borden Co. et al.*, op. cit.

[75] Hostetter and Beesley, op. cit., pp. 130–131.

[76] F. A. L., cases 289, 392, 393; Federal Trade Commission, Agricultural Income Inquiry, Part 1, pp. 609–613. 659–662; Part 2, pp. 531–535, 617–618.

[77] F. A. L., cases 279, 356, 368, 391.

[78] F. A. L., cases 389, 397; Hostetter and Beesley, op. cit., ch. 6.

of 5 years. In this way prices were maintained and profits realized by members of the ring. It was estimated that these profits amounted to as much as $2,000,000 in a single year. One of the racketeers was said to have drawn $5,000 weekly from the monopoly in 1933. Twenty of them were sent to prison for short terms in 1929, 5 of them for longer terms in 1934.[79]

Collusive activities have also characterized the markets for fruits and vegetables in many cities. Associations of dealers in New York and Chicago have established common charges and raised prices. Forty receivers of potatoes in New York agreed, in 1935, to increase the net commission rate on consigned produce from 5 to 7 percent. Although the agreement was abandoned when some of the dealers refused to sign, most of them raised their rates to 7 percent.[80] Receivers of potatoes in Chicago, members of the Chicago Division of the American Fruit and Vegetable Shippers' Association, agreed on a minimum brokerage charge of $15 per car in 1928. This agreement was still in effect in 1937.[81] Firms handling grapes bound for New York City, operating in the New Jersey railroad yards during the fall of 1935, under the leadership of a well-known New York racketeer, exacted from buyers a fee of 10 cents per lug for which no necessary service was performed.[82] A group of 66 dealers controlled the sale of grapes at the Santa Fe tracks in Chicago for many years. Members of this group combined in October 1936 to form an association known as the Santa Fe Grape Dealers of Chicago. During the next 3 months, they pooled their purchases, buying only through agents designated by the association and participating equally in the profits of the pool. Dealers who were unable or unwilling to contribute $400 to the association's capital were denied admission; members who violated any of its rules were fined or expelled; nonmembers were excluded from the market.[83] Associations of truckmen engaged in the business of hauling produce between rail and water terminals and wholesale and retail markets in New York, Chicago, and Philadelphia have entered into agreements with dealers' associations and with trade union locals which have enabled them to obtain monopolies of this service and to establish high and uniform cartage rates. Such agreements were concluded between the Market Truckmen's Association and the Fruit and Produce Trade Association of New York,[84] between the Chicago Commission Team Owners' Association and the Market Service Association in Chicago,[85] between the Perishable Fruit and Produce Haulers' Association and a Fair Practices Committee representing associations of dealers in Philadelphia,[86] and between

[79] Hearings before the Temporary National Economic Committee, Part 7, pp. 2866–2880; Time, May 8, 1933; Federal Antitrust Laws, cases 279, 356, 368, 391. The Senate Committee on Commerce reported that: "Dominance has been enforced by a vicious system of intimidation, by violence, arson, and murder. Places of business have been bombed; thousands of chickens have been destroyed by gas bombs, poison, or fire; trucks have been wrecked. Gangs in high-powered cars patrolled highways and intercepted deliveries and kidnaped or killed the victims. Those who resisted or defied the leaders were broken by the ring and persecuted by the crooked politicians protecting the rackets and obviously sharing in the spoils."—Senate Committee on Commerce, Crime and Criminal Practices, 75th Cong., 1st sess., S. Rept. 1189 (1937), p. 17.

[80] Federal Trade Commission, Agricultural Income Inquiry (1937), Part I, p. 613.

[81] Ibid., pp. 610–611.

[82] Ibid., Part II, p. 617.

[83] Ibid., pp. 617–618.

[84] Ibid., Part I, p. 644.

[85] Ibid., p. 659.

[86] Ibid., Part II, p. 535.

the truckmen's associations and locals of the International Brotherhood of Teamsters in each of these cities. Receivers of produce in New York were required to employ members of the Truckmen's Association to represent them at the terminals and dealers were forbidden to drive onto docks and piers to take delivery in their own trucks. As a result, they took delivery on the street outside, paying truckmen for hauls that did not exceed a few hundred feet. Buyers of fruit at auction were permitted to load it onto their own trucks, but they were required to pay an "owner's cartage charge" to the truckman representing the receiver to whom it was consigned.[87] Receivers in Philadelphia agreed that they would not sell to buyers employing truckmen who did not belong to the Haulers' Association. The agreement also protected association members against competition from dealers' trucks by establishing minimum units for sales, forbidding delivery to more than one consignee at one address, and imposing an added charge for reconsignment.[88] The truckmen's monopolies have been reinforced by the strong-arm tactics employed by members of the union. In Chicago, nonunion drivers have been threatened and beaten and their trucks have been damaged. In Philadelphia, trucks operated by dealers have been interfered with and trucks owned by chain stores have been excluded from the terminals. In both cities growers and itinerant truckers hauling produce into the markets have been required to join the union, to pay a charge for the privilege of unloading, or to transfer their loads to union trucks at a short distance from their destinations.[89] Organized dealers, truckmen, and laborers have thus kept competition in the great urban produce markets under strict control.

Terrorism has been among the devices employed in the enforcement of a succession of market-sharing and price-fixing plans adopted by members of the cleaning and dyeing trade in Chicago at various times during the past 30 years. Beatings have been inflicted, trucks damaged, plants bombed, windows smashed, and clothing ruined; at least two persons connected with the trade have been murdered and the talents of such notorious gangsters as Al Capone and George ("Bugs") Moran have been brought into play. The Chicago Master Cleaners and Dyers Association controlled the trade from 1910 to 1930, its power derived largely from the economic strength of three friendly unions—the Laundry and Dye House Drivers and Chauffeurs Union, Local 712 of the International Brotherhood of Teamsters known as the truck drivers' union; the Cleaners, Dyers, and Pressers Union, Federal Local No. 17742 of the A. F. of L., known as the inside workers' union; and the Retail Cleaners and Dyers Union, Federal Local No. 17792 of the A. F. of L., known as the tailors' union. The association fixed prices and introduced a "closed solicitation rule" which forbade cleaners to solicit accounts from retailers who were already being served by other plants. To enforce compliance, it imposed fines on violators, persuaded the truckers' union to instruct its drivers not to collect work from certain of their customers, and persuaded the inside workers' union to call strikes in their plants. Cleaners maintaining retail outlets who

[87] Ibid., pp. 531–532.
[88] Federal Trade Commission, Report to the President * * *, pp. 492–504.
[89] Ibid., Federal Trade Commission, Agricultural Income Inquiry, Part II, p. 534.

failed to adhere to association prices might suffer the lighter penalty of having cut-rate "whip stores" opened nearby or the more severe punishment of bombing. Construction of new plants was checked by restrictive fire ordinances enacted in response to association pressure and by threats of violence which could be silenced only by substantial contributions of cash. One new concern which incurred the displeasure of the association sustained several explosions and had its drivers beaten until it obtained protection by making "Bugs" Moran a stockholder. Retail tailors were required to adhere to the "hundred number rule" which forbade a tailor to open a shop within 100 street numbers of another shop, and were forced by the refusal of cleaners to take their work, by fines, by "whip-stores," by picketing under various pretexts, and by window-smashing, to maintain the prices decreed by the tailors' union. The association price for cleaning and pressing a man's suit stood at $1.50 from 1921 to 1925 and at $1.75 from 1926 to 1929. Prices were so far out of line with those prevailing in other cities that many Chicagoans found it cheaper to mail their garments out of town for cleaning.[90] The association was succeeded in 1931 by the Cleaners and Dyers Institute of Chicago. Partly to counteract public antagonism which had developed during the twenties, the trade named Dr. B. M. Squires, lecturer at the University of Chicago and a well-known labor arbitrator, to head the institute. Under these auspices, cleaners controlling 60 percent of the work done in the Chicago area entered into a "sales manager contract plan." Each cleaner signed a contract making Dr. Squires his sales manager. Dr. Squires, in turn, appointed a submanager (usually the owner) for each plant, requiring him to sign a letter of resignation which could be made effective at any time.

> In short * * * each cleaner surrendered to Dr. Squires the control of his sales policy, and had this control returned to him with the provision that it was to revert to Dr. Squires, if the plant owner did not carry out the instructions of the sales manager.[91]

The institute retained the "closed solicitation rule" and continued the association's working arrangements with the unions. Strikes were called against nonsigners to force them to join. Cash payments were sometimes made to price cutters in return for a pledge to "go along." Fines, "whip stores" and policing by the unions were also used to keep the trade in line.[92] Shortly after Dr. Squires took over the institute, Al Capone offered to enforce the contracts and to maintain prices in return for half of the dues, but Dr. Squires declined. In June 1931, however, the institute hired James P. Gorman, head of the tailors' union, to police the trade and it is believed that some of the money paid to him found its way to Capone and his lieutenant, Murray Humphreys, and that the Capone influence stood behind the institute's program.[93] Although there is no evidence that Dr. Squires sanctioned the use of violence, destruction of clothing and explosions in the plants of noncooperating cleaners did not cease during the period of his administration. A few months after the contract plan went into effect, the base price was raised from $1 to $1.25. But, as

[90] Handsaker, op. cit., pp. 121–144.
[91] Ibid., pp. 180–181.
[92] Ibid., pp. 202–203.
[93] Ibid., pp. 277–278.

one cleaner remarked, the whole United States Army could not have maintained cleaning prices in Chicago during the depression. Prices broke and the institute was abandoned in the summer of 1932. The Chicago Association of Cleaners and Dyers, which was then organized, employed the traditional tactics—cooperation with the unions, "whip stores," and violence—but was unable to brace the sagging price structure. The N. R. A., which set a 95-cent minimum for the Chicago area in 1933, brought new hope to the cleaners, but violation was so widespread that the price was suspended in May 1934. The trade then turned to the courts. In October 1934 the Cleaning and Dyeing Plant Owners Association of Chicago filed a bill of complaint in the Circuit Court of Cook County against 22 cleaners, charging them with destructive and ruinous competition designed "to deprive the plaintiffs of their customers and prospective customers and to injure their goodwill, business, and investments and their thousands of employees." [94] Despite the fact that some of the cut-price cleaners were making a profit at 50 cents, the court enjoined the defendants from selling for less than 90 cents, with a 15-cent reduction for cash and carry business. The injunction was dissolved by the appellate court in May 1936, nearly a year after it had gone into effect.[95]

In some cases, a racket merely exacts tribute from the members of a trade. In others, it establishes and maintains "order" so that the members of a trade may exact tribute from the public. According to one of the reports published by the Wickersham Commission [96]—

> In this possibility of forcible suppression of competition is to be found one important reason why rackets tend to make especially rapid headway in lines of business having numerous small and actively competing units, where it is difficult to avoid so-called "cut-throat competition" which keeps all but the most efficient units at the starvation point. Open price-fixing agreements are forbidden by law, and probably would not be lived up to if made; but the racket may provide an effectively policed method of bringing about noncompetitive conditions.

In method, this sort of business practice is universally condemned, but in purpose and effect it differs little from the forms of monopolistic behavior previously described.

[94] Ibid., p. 309.
[95] Ibid., p. 321.
[96] National Commission on Law Observance and Enforcement, Reports, vol. 5, No. 12, Report on the Cost of Crime (1931), p. 410.

CHAPTER VI

THE OCCURRENCE OF COMPETITION AND MONOPOLY

It is impossible to estimate in precise quantitative terms the comparative extent of competition and monopoly at any moment of time. The concepts cannot be defined with the precision required in measurement. The necessary data are not available. The situation, moreover, is a constantly changing one. There are, however, scraps of information which indicate obliquely that monopolistic control over prices and production has been and is characteristic of a large share of American business.

CONCENTRATION OF BUSINESS ACTIVITY

In the first place, there is evidence of great concentration of business activity in the hands of a small number of large concerns. According to Berle and Means, 130 corporations, each reporting assets in excess of $100,000,000, controlled nearly 82 percent of the assets of a group of 573 corporations whose shares were traded on the New York Stock Exchange in 1929.[1] Among some 300,000 nonbanking corporations, on or about January 1, 1930, the 200 largest, each with assets of more than $90,000,000, controlled between 45 and 53 percent of the nonbanking corporate wealth, between 35 and 45 percent of the nonbanking business wealth, incorporated and unincorporated, and between 15 and 35 percent of the total national wealth.[2] It was estimated that the relative rate of growth maintained by the larger and smaller concerns from 1909 to 1929, if continued for another 20 years, would place 70 percent of the Nation's corporate wealth in the hands of the 200 largest by 1950.[3] According to the Twentieth Century Fund, the 594 largest corporations in the country in 1933, each with assets over $50,000,000, though only 0.15 percent of the total number, owned 53.2 percent of all corporate assets [4] and produced 18.4 percent of the Nation's income.[5] The 273 largest nonbanking corporations, or 0.09 percent of the number in this group, together with 102 of their subsidiaries, owned 56.2 percent of the assets in the group.[6] Six or seven percent of the corporations in the country received around 80 percent of all corporate net income in each of the years 1931, 1932, and 1933,[7] while 69 corporations, only 0.06 percent of the total number, collected over 30 percent of such income in 1933.[8] According to a report published by the National

[1] Adolf A. Berle, Jr., and Gardiner C. Means, The Modern Corporation and Private Property (New York, 1933), p. 27.
[2] Ibid., p. 32.
[3] Ibid., p. 40.
[4] Twentieth Century Fund, Big Business: Its Growth and Its Place (New York, 1937), p. 54.
[5] Ibid., p. 96.
[6] Ibid., p. 54; Cf. National Resources Committee, The Structure of the American Economy, Part 1, Basic Characteristics (Washington, 1939), p. 104.
[7] Twentieth Century Fund, op. cit., p. 71.
[8] Ibid., p. 68.

Resources Committee, the share of the 200 largest in the assets of all nonfinancial corporations grew from 49.4 percent in 1929 to 57.0 percent in 1939.[9] In the latter year, the 200 concerns in this group controlled approximately 60 percent of the physical assets of all nonfinancial corporations, between 46 and 51 percent of the Nation's industrial wealth, and between 19 and 21 percent of its total wealth. In transportation, the 45 largest corporations controlled 91.7 percent of the assets; in public utilities, the 40 largest controlled 80.4 percent; in manufacturing, the 75 largest controlled 40.2 percent.[10] It is estimated that 1 percent of the corporations engaged in manufacturing have 63 percent of the wealth of all such corporations.[11] And finally, according to the message which President Roosevelt sent to Congress on April 29, 1938, less than 5 percent of the corporations reporting to the Bureau of Internal Revenue in 1935 owned 87 percent of the assets of all corporations and less than 4 percent of them received 84 percent of all corporate net income. One-tenth of 1 percent of these concerns owned 52 percent of the assets of all those in the group and realized 50 percent of all the profits.[12]

Concentration of production among corporations engaged in manufacturing may also be measured in terms of employment and output. In 1929, enterprises operating several plants, though only 12.4 percent of the total number, hired 48.4 percent of the wage earners and produced 54.3 percent, by value, of the total output of manufactured goods.[13] In 82 industries in 1933, only 1.6 percent of the firms employed 37.5 percent of the workers.[14] In 46 of these industries, the 6 largest concerns had more than one-half of the employees; in 31 they had more than two-thirds; in 24 the 3 largest had more than half of the workers and in 11 they had more than two-thirds.[15] In 1935, the 200 largest manufacturing corporations produced nearly 38 percent, by value, of the total output of such concerns.[16] Among the 21 large industries, each employing more than 100,000 workers, the 44 medium-sized industries, each employing between 25,000 and 100,000 workers, and the 210 small industries, each employing less than 25,000 workers, comprising the 275 categories used by the Census of Manufactures, there were 4 large, 10 medium-sized, and 117 small industries in which the 8 largest concerns hired more than half of the workers and 6 large, 13 medium-sized, and 117 small industries in which they produced more than half, by value, of the total output and there were 2 large, 6 medium-sized, and 67 small industries in which the 4 largest concerns hired more than half of the workers and 3 large, 6 medium-sized, and 78 small industries in which they produced more than half of the output. In all 275 industrial categories, there were 87, or approximately one-third, in which the 4 largest concerns produced more than half; 45, or approximately one-sixth, in which they produced more than two-thirds; and 29, or approximately one-ninth, in which they produced more than three-fourths of the output.[17]

[9] National Resources Committee, op. cit., p. 107.
[10] Ibid., pp. 105–106.
[11] Corwin D. Edwards, "Can the Anti-trust Laws Preserve Competition?", American Economic Review, vol. 30, No. 1, supplement, March 1940, pp. 164–179, at p. 165.
[12] Hearings Before the Temporary National Economic Committee, Part 1, p. 185.
[13] Twentieth Century Fund, op. cit., p. 36.
[14] Ibid., p. 45.
[15] Ibid., p. 43.
[16] Edwards, loc. cit.
[17] National Resources Committee, op. cit., pp. 240–258.

Since an industry, as defined by the Census, may manufacture many different products and since any one of these products may be made by but a few of the concerns that are classified as belonging to the industry, it is obvious that concentration of control over individual products must be even greater than the foregoing figures reveal. When data covering 1,807 representative products, nearly half by number and more than half by value of those included in the Census of Manufactures for 1937, were analyzed by the Bureau of Foreign and Domestic Commerce, it was found that the 4 largest concerns engaged in the manufacture of more than three-quarters of these products accounted for more than 50 percent of the total output; that the 4 largest making nearly half of them accounted for more than 70 percent; and that the 4 largest making more than a quarter of them accounted for over 85 percent. In the cases of 291 products, more than one-sixth of those included in the study, the one leading manufacturer controlled between 50 and 75 percent of the supply; the cases in which a single producer controls a larger share are not disclosed by the census.[18]

These figures reveal substantial concentration of assets, income, employment, and output in the hands of a minority of the producers in a large area of American industry. While such concentration does not invariably involve monopolistic control over prices and production, the one is frequently conducive to the other.

UNIFORMITY OF PRICES

A second bit of evidence is to be found in the extent of uniformity obtaining in the submission of bids on public contracts. When the Denver office of the Bureau of Reclamation opened 17 bids for reinforcement bars, 14 of them were for $1,144.16. When the United States engineers at Los Angeles opened 12 bids of the same product, 11 of them were for $194,051.89. When the purchasing agent for the Fort Peck Dam opened 10 bids, each of the 10 was for $253,633.80.[19] When the Navy Department opened 40 bids for cement, each of them was for $17,148.60. When it opened 59 bids for steel pipe, each of them was for $16,001.83.[20] The Consumers' Advisory Board of the N. R. A. found more than 200 such cases affecting nearly 150 products sold by more than 50 industries in 1934.[21] The Procurement Division group of the Treasury Department subcommittee of the T. N. E. C. surveyed 331,851 bid openings made by 45 agencies of the Federal Government in connection with purchases aggregating more than $860,000,000 between December 1937 and November 1938. In 23.1 percent of these openings, involving the expenditure of more than $87,000,000, two or more bids were identical. In 4.1 percent of the openings all of the bids were identical. In another 5.7 percent, two or more of the lowest bids were identical. Thus 9.8 percent of the contracts awarded went to bidders who had submitted identical bids. A sample of 25,610 openings, typical of those in which such bids were encoun-

[18] Willard L. Thorp and Walter F. Crowder, The Structure of Industry, Temporary National Economic Committee, Monograph No. 27, Part III.
[19] New York Times, February 20, 1939.
[20] Annual Report of the Attorney General of the United States, 1937, pp. 37–38.
[21] Hearings before the Committee on Finance, U. S. Senate, 74th Cong., 1st sess., Investigation of the National Recovery Administration, pp. 681–684.

tered, revealed the existence of uniformity among the bids submitted on several hundred different commodities in more than 250 groups of products in 17 major industrial classifications.[22] The agencies included in this study attributed the practice of identical bidding to the following factors:[23]

(*a*) The adoption of industrial standards relating chiefly to quality, size, finish, and performance, and the utilization of standardized manufacturing machinery and materials have the effect of reducing variations in production costs.

(*b*) Legislation of whatever sort, which provides for market agreements or for minimum resale prices, tends to result in identical prices. Illustrative among these laws were mentioned State milk control laws, the Agricultural Marketing Act, and the National Bituminous Coal Act.

(*c*) Fair practice agreements in industries tend to produce identical prices.

(*d*) Price control or leadership by a single or by a few leading manufacturers in any given industry tend to cause identical prices. If in existence, outright price agreements between producers would produce the same result.

(*e*) Trade associations are believed to have a tendency to foster practices which bring about identical prices. Among such practices may be mentioned: (1) The adoption of price schedules; (2) the allotment of sales territory among the members of the association based on production facilities, geographical restrictions, transportation limitations, or other basis.

Identity among the bids submitted by several bidders on numerous commodities over a period of several months, running in some cases to the fourth decimal place, is scarcely to be attributed either to competition or to coincidence.

RIGIDITY OF PRICES

There is evidence of price control, finally, in the relative rigidity of the prices of many products over considerable periods of time. Burns finds such rigidity to be characteristic of the prices of some 50 goods, including aluminum, bananas, bread, canned milk, cement, chemicals, crackers, drugs, fertilizer, gasoline, glass, iron ore, linseed oil, matches, nickel, paper, rayon, salt, sewing machines, starch, steel, sugar, sulfur, thread, and tin cans.[24] Mills, who studied the frequency of monthly changes in the wholesale prices of 206 commodities included in the Bureau of Labor Statistics index during 4 consecutive 8-year periods between 1890 and 1921, inclusive, and during the years 1922 through 1925, found that a substantial fraction of these prices did not change as often as once in 10 months during 4 of the 5 periods, the single exception being the period from 1914 through 1921 which included the years of the First World War. During 1922–25, one-sixth of the prices changed less frequently than once in 10 months, one-third of them less frequently than once in 5 months, and half of them less frequently than once in 2 months.[25] Means, who made a similar study covering the wholesale prices of 747 products included in the B. L. S. index from 1926 through 1933, found that more than half of them changed less often than 3 times a year, nearly a third of them less often than 3 times in 2 years, nearly a quarter of them less often than 9 times in 8 years, and nearly an eighth of them less often than 5 times in 8 years. Fourteen products showed no change in price during these 4 years of great prosperity and 4 of severe de-

[22] Procurement Division group, Treasury Department subcommittee, Temporary National Economic Committee, Study of Government Purchasing Activities, 1939, Part II.
[23] Ibid., pp. 108–109.
[24] Burns, op. cit., pp. 198–240.
[25] Frederick C. Mills, The Behavior of Prices (New York, 1927), pp. 379–381.

pression. Means found, moreover, that the prices which changed frequently fell farthest and that those which changed infrequently fell least during the years from 1929 to 1933.[26] Thorp, after examining the amplitude of changes in the wholesale prices of 784 such commodities between 1929 and 1933, found that 221 of them, 28 percent of those in the group, fell less than 25 percent while the group as a whole was falling 40 percent. The prices of 41 products did not decline at all during the period, those of 13 remaining stationary, and those of 28 actually advancing in the face of the depression.[27] In the report previously cited, the National Resources Committee presents the results of another such study, covering 617 products included in the B. L. S. index from 1926 through 1932. The prices of 193 of these products, 31 percent of the total number, changed less frequently than 12 times, those of 135, or 22 percent of the total, less frequently than 8 times, and those of 71, or 12 percent of the total, less frequently than 5 times during the 8 years.[28] In 1932, while the wholesale price index had fallen 33 percent below its 1926–29 average, the prices of the 193 products had dropped less than 18 percent, those of the 135 products less than 15 percent, and those of the 71 products less than 7 percent.[29] It was found, moreover, that the prices which had fallen farthest during the years 1929–32 were those that rose farthest during the years 1933–37 and that those which had fallen least during the depression rose least during the recovery.[30]

The most recent investigation of this character was made by the T. N. E. C. Studies Section of the Bureau of Labor Statistics. The frequency, amplitude, and timing of changes in the wholesale price series included in the Bureau's index were measured according to various methods for 14 samples, each covering from 617 to 664 products during various periods from 1926 through 1938. In the 8 years from 1926 through 1933, more than half of the prices examined changed less than 23 times, nearly a third of them less than 12 times, more than a fifth of them less than 8 times, and nearly an eighth of them less than 5 times. In the 40 prosperity months from January 1926 through April 1929, nearly half of the prices studied changed less than 9 times, nearly a third of them less than 4 times, and nearly a sixth of them less than 2 times; the prices of 75 products, nearly an eighth of those in the sample, did not change at all. During the same period, while one-fifth of the prices moved, on the average, more than 6.7 index points and a tenth of them more than 8.9 points every time they changed, another fifth moved less than 2.3 points and another tenth less than 1.7 points. In the period from June 1929 to February 1933 while one-fifth of the prices fell 51 percent or more, another fifth fell less than 11 percent and a tenth did not fall at all. While one-fifth of the prices reached their depression lows during 1932, nearly a tenth of them during the first 6 months of that year, another fifth did not touch bottom until 1934, an eighth of them until December 1934. While one-tenth of the prices at their depression lows stood 66 percent or more below the average of their 1929 and

[26] Industrial Prices and Their Relative Inflexibility, 74th Cong., 1st sess., S. Doc. No. 13, pp. 2–4.
[27] Willard L. Thorp, Recent Price Behavior, The Price Study, Report No. 6 (mimeo.) (Washington, 1934).
[28] National Resources Committee, op. cit., pp. 109–110, 200–201.
[29] Ibid., p. 204.
[30] Ibid., p. 129.

1937 peaks, another tenth showed declines of 8.5 percent or less, stood still, or even rose. Again, while nearly a tenth of the prices attained their post-depression peak during 1936, a quarter of them did not reach it until December 1938. From their depression lows to their 1937 peaks, one-fifth of the prices more than doubled, another fifth advanced 12 percent or less, and a tenth advanced less than 4.5 percent, stood still, or actually declined.[31] For all of the prices examined, there was a marked relationship between the extent of the decline experienced from 1929 to 1933 and the extent of the recovery attained from 1933 to 1937. When the frequency and the amplitude of the changes registered by the several prices were compared, a fairly high degree of correlation was observed, a finding which confirmed the conclusions of earlier investigators in the field.[32] Moreover, when the frequency and the amplitude were each compared with the timing of changes in price, similar relationships were found to exist.[33]

It may be questioned whether these studies afford accurate measurements of the extent of relative inflexibility in the universe of prices. Each of them has employed the wholesale price series represented in the indexes prepared by the B. L. S. These series, of course, do not include such important items as wages, rents, interest rates, the prices of securities, and those of goods sold at retail. The reports upon which they are based may not be truly representative of the various grades, qualities, and sizes of every one of the commodities covered or of the prices prevailing in each of the several geographic areas in which they are sold. The prices that are reported may sometimes differ from those at which goods are actually exchanged. They may be openly modified by discounts, allowances, rebates, premiums, guarantees, and the provision of supplementary services. They may be secretly shaded by concessions granted to individual buyers. Some of these prices, moreover, may fail to reflect changes occurring over periods of time. The commodities to which they apply cannot always be defined with precision. Products may differ, from year to year, in quality, size, and style. A rigid price may conceal the fact that consumers are getting more for their money as time goes by; it may actually be a falling price when measured on the basis of value received. Comparison of prices over time may also be rendered difficult by modifications in the collateral terms of sale. All of these shortcomings of the basic data have been recognized by the investigators in the field.[34] But, in general, they are not believed to be so serious as to invalidate the results that have been obtained. It is clear that precise measurement of the area of price rigidity is not to be expected. But it seems probable that the approximate boundaries of this area, within the field of wholesale prices, are indicated by the studies which have been described.

[31] Saul Nelson and Walter G. Keim, Price Behavior and Business Policy, Temporary National Economic Committee, Monograph No. 1, Part I, pp. 208–209.

[32] Cf. Industrial Prices and their Relative Inflexibility, loc. cit., National Resources Committee, op. cit., pp. 146–147; Edward S. Mason, "Price Inflexibility," Review of Economic Statistics, vol. 20, pp. 53–64 (May 1938).

[33] Nelson and Keim, op. cit., pp. 169–171.

[34] Cf. Gardiner C. Means, "Notes on Inflexible Prices", American Economic Review, vol. 26, Supplement, March 1936, pp. 23–35; Mason, loc. cit.; National Resources Committee, op. cit., pp. 173–185; Jules Backman, Price Flexibility and Inflexibility, Contemporary Law Pamphlets, Series 4, No. 3 (New York University, 1940), pp. 11–13, 40–49. Temporary National Economic Committee Monograph No. 1, Price Behavior and Business Policy, op. cit., pp. 30, 31.

The fact of price rigidity is established; its causation is in dispute. Many students of the phenomenon have attributed it primarily to the concentration of production in the hands of a small number of large concerns.[35] Others have criticized this conclusion, advancing four principal arguments in support of their position: First, rigid prices characterized a substantial sector of the economy during the nineteenth century, long before the present degree of concentration was attained. Second, it has not been demonstrated that this sector is relatively larger today than it was a generation or more ago. Third, rigidity of prices may be attributed to other causes than concentration of control: to inelasticity of demand, to rigidity of costs, to the structure of markets, to contractual arrangements, to marketing techniques, to custom and habit, and to the public regulation of business activity. Fourth, there are industries in which production is concentrated and prices are flexible, other industries in which production is dispersed and prices are rigid.[36] To these arguments the following replies have been made: First, the fact that price rigidity existed during earlier periods does not negate the possibility that it may characterize a larger share of the Nation's markets today. Second, the fact that no increase in its relative extent has been demonstrated does not establish the proposition that no such increase has occurred. Indeed, it is a matter of common observation that the industries in which prices are most rigid constitute a larger segment of our economy today than they did a few decades ago. Third, if rigidity cannot be explained in terms of concentration alone, neither can it be explained in terms of other causes when this factor is not taken into account. Fourth, the occasional coincidence of concentration of production and flexibility of prices may be attributed to special causes: to technological progress, to falling costs, to the growth of small competitors, to the competition of substitutes. So, too, with the coincidence of dispersion and rigidity; here the phenomenon may be attributed to custom, convenience, collusion, or the conventions of the trade. Moreover, in industries where national output is not concentrated and prices are rigid, it may be found that goods are sold in regional or local markets where substantial concentration does obtain.[37]

The only statistical analysis of the relationship between concentration and rigidity is that included in the study reported by the National Resources Committee. Data were examined for 37 census industries in each of which a homogeneous product, deriving at least a third of its value from the processes of manufacture, was sold on a national or international market. "When the depression drop of prices in these industries is compared with the proportion of value product in each which was produced by the four largest enterprises," says the report, "a rough relation is apparent between concentration and price

[35] Cf. Industrial Prices and their Relative Inflexibility, pp. 9–12; Means, loc. cit.; J. K. Galbraith "Monopoly Power and Price Rigidities." Quarterly Journal of Economics, vol. 50, pp. 456–475 (May 1936); Ralph C. Wood, "Dr. Tucker's 'Reasons' for Price Rigidity," American Economic Review, vol. 28, pp. 661–673 (December 1938); National Resources Committee, op. cit., pp. 142–145.

[36] Cf. Don D. Humphrey, "The Nature and Meaning of Rigid Prices, 1890–1933," Journal of Political Economy, vol. 45, pp. 651–661 (October 1937); Rufus S. Tucker, "The Essential Historical Facts About 'Sensitive' and 'Administered' Prices," Annalist, February 4, 1938, pp. 195–196; Rufus S. Tucker, "The Reasons for Price Rigidity," American Economic Review, vol. 28, pp. 41–54 (March 1938); Mason, loc. cit.; Backman, op. cit., pp. 5–9, 17–40; Jules Backman, "The Causes of Price Inflexibility," Quarterly Journal of Economics, vol. 54, pp. 474–489 (May 1940).

[37] Galbraith, loc. cit.; Mason, loc. cit.; Wood, loc. cit.; Nelson and Keim, op. cit., pp. 18–19.

insensitivity." [38] After a further consideration of the factors that influence the frequency and amplitude of price changes, the authors conclude that "the dominant factor in making for depression insensitivity of prices is the administrative control over prices which results from the relatively small number of concerns dominating particular markets." [39]

Many of the investigators who attribute price rigidity to concentration of production have distinguished between concentration and monopoly, insisting that rigid prices are not to be explained in terms of monopoly power. On the one hand, they have pointed to the fact that prices are rigid in many industries where there is no evidence of collusion, coercion, or control by a single firm, where none of the producers is realizing a monopoly profit, and where some of them are even operating at a loss. On the other hand, they have argued that monopolists, though they may not choose to do so, have the power to change their prices frequently in response to changes in demand.[40] It is true, of course, that price rigidity and monopoly power are not coterminous. But monopoly may be present in many markets where rigidity and competition appear to coincide. The existence of monopolistic behavior is not always disclosed and when it is disclosed is not always held to be in violation of the law. The presence of many producers in a trade where prices are rigid does not prove that such rigidity has been attained in the absence of monopolistic control. Price leadership, collusive agreements, basing point systems, market sharing arrangements, many of the activities of trade associations, and many of the limitations on competition which have been authorized by law are monopolistic in purpose and effect. The area of noncompetitive pricing is wider than the area of concentration of control. So, too, the fact that rigid prices do not always yield monopoly profits does not disprove the existence of monopolistic behavior in the fields where they obtain. The monopolist may not have adopted the policy that would have produced the largest returns; he may merely have succeeded in minimizing his losses; in either case he may still possess monopoly power. It must be noted, moreover, that prices display the greatest flexibility in those areas where competitive conditions are known to obtain and the greatest rigidity in those areas where monopolistic activity is most frequently to be observed. The prices of agricultural products and most raw materials are highly flexible; the prices of many manufactured goods are notoriously rigid.

When producers maintain prices, it is evident that they possess both the desire and the power to do so. The producers of foodstuffs and raw materials may have desired to maintain prices from 1929 to 1933, but they lacked the power. The producers of manufactured goods might have chosen to cut prices and maintain output during these years, but many of them took the opposite course. They may have doubted that lower prices would stimulate sales. They may have believed that prices should be maintained at levels which would cover "costs." They may have hesitated to disturb a stable system of price control. They may have failed to act through sheer inertia. What-

[38] National Resources Committee, op. cit., p. 142.
[39] Ibid., p. 143.
[40] Cf. Industrial Prices and Their Relative Inflexibility, pp. 1–2; Means, loc. cit.; John T. Dunlop, "Price Flexibility and the 'Degree of Monopoly'," Quarterly Journal of Economics, vol. 53, pp. 522–533 (August 1939); National Resources Committee, op. cit., pp. 139–140; Nelson and Keim, op. cit., pp. 11, 32–33.

ever the reasons for their choice, the members of many manufacturing industries maintained prices and curtailed output in the face of the depression. Such a response to contracting markets makes it clear that these firms had not only the desire but also the power to exert control. An industry which is simultaneously characterized by declining demand, increasing unemployment, and rigid prices cannot be described as effectively competitive.[41] It may be concluded, then, that the prevalence of price rigidity reveals the existence of monopolistic behavior in a substantial segment of the American economy.

AREAS OF COMPETITION AND MONOPOLY

In the late thirties, there were nearly 11,000,000 entrepreneurs in the United States. Of these, nearly 7,000,000 were in agriculture, nearly 1,500,000 in wholesale and retail distribution, and another 1,500,000 in the service trades.[42] There were nearly 2,000,000 employers who were subject to the pay-roll tax imposed under the Social Security Act. But among these, half had fewer than 4 employees, two-thirds had fewer than 7, three-fourths had fewer than 10, nine-tenths had fewer than 30, and 99 percent had fewer than 300. There were more than 2,000,000 business concerns in fields other than farming, finance, railway transportation, and the professions. But there were only 530,000 corporations, and among these more than half had assets of less than $50,000, more than two-thirds had assets of less than $100,000, nearly nine-tenths had assets of less than $500,000, 94 percent had assets of less than $1,000,000, and 98.5 percent had assets of less than $5,000,000.[43] While big business may dominate many important industries, it is clear that little business has not disappeared from the American scene.

It would be a mistake, however, to identify big business with monopoly, little business with competition. It is not the absolute size of the business unit that is significant, but its size in relation to the size of the market. Large firms may be forced to compete with other large firms in large markets; competition among giants may be quite as effective as competition among pygmies. A small firm, on the other hand, may enjoy a complete monopoly of a small market or may conspire with other small firms to obtain such a monopoly. Solicitude for little business does not always spring from the desire to protect the consumer against a monopoly price. Where large establishments compete with small ones, competition may shortly be destroyed. It has long been recognized, for instance, that big business may seek, by fair means or foul, to drive little business from the market. It is less frequently acknowledged that little business may procure the enactment of legislation which makes it difficult, if not impossible, for big business to compete on the basis of comparative efficiency.

The major categories of business activity may be divided roughly into two groups. The first of these groups includes agriculture, wholesale and retail distribution, personal service, building construction, and a miscellany of smaller trades. The second includes transportation, public utilities, manufacturing, mining, and finance. In the first

[41] Cf. Galbraith, loc. cit.; Wood, loc. cit.
[42] Bureau of Foreign and Domestic Commerce, Income in the United States, 1929–37, table 21.
[43] Hearings before the Temporary National Economic Committee, Part 1, pp. 227–229.

group business enterprises are numerous, the typical enterprise is small, the degree of concentration is low, and prices are relatively flexible. In the second, enterprises are less numerous, the typical enterprise is larger, the degree of concentration is higher, and prices are relatively rigid. Among the industries in the first group, it is probable that competition is more usual than monopoly. Among those in the second, it is possible that monopoly is as usual as competition. The first group contains about 10,500,000 business units; the second contains less than 500,000. The first group employs more than 55 percent of the persons who are engaged in public and private enterprise; the second employs more than 35 percent. The first group includes less than three-fifths of those who are privately employed; the second includes more than two-fifths. The first group produces nearly 40 percent of the national income; the second produces more than 45 percent. The first group accounts for less than half of the income produced by private enterprise; the second accounts for more than half.[44] But it cannot be said that business activity is divided between competition and monopoly in the proportions which these figures would suggest. For the first of these groups includes industries such as building construction in which numerous illegal restraints have been found to obtain and others such as agriculture and retail distribution in which similar restraints have been authorized by law, while the second includes industries such as textile manufacturing and the garment trades which have long been highly competitive, others such as anthracite coal mining and railway transportation which are meeting with the competition of substitutes, and still others such as bituminous coal mining and highway transportation in which competition has but recently been subjected to public control.

No sort of an estimate concerning the comparative extent of competition and monopoly in American markets is justified by the available evidence. Such an estimate must wait upon the articulation of usable definitions, the development of techniques of measurement, and the collection of a body of data much larger than anything that is now at hand. Indeed, it may be doubted if such an estimate can ever be made with any assurance. Competitive industries have their monopolistic aspects; monopolized industries have their competitive aspects. The situation in both fields is constantly in a state of flux. The most that can be said today is that competition is far too common to justify the thesis that the competitive system is approaching extinction, and that monopoly is far too common to justify its treatment as an occasional exception to the general rule.

THE INSTABILITY OF COMPETITION AND MONOPOLY

In those industries which appear normally to be competitive, competition is constantly breaking down. Competitors continually seek to limit competition and to obtain for themselves some measure of monopoly power. They enter into agreements governing prices and production. They set up associations to enforce such agreements. They procure the enactment of restrictive legislation. For a time they may succeed in bringing competition under control. But these

[44] Bureau of Foreign and Domestic Commerce, op. cit., tables 2, 13, 21.

arrangements, too, are constantly breaking down. Competitors violate the agreements. Associations lack the power to enforce them. New enterprises come into the field. Restrictive statutes are invalidated by the courts or repealed by the legislatures. The lines of control are repeatedly broken and reformed. The facts that describe the situation existing in such an industry today may not apply to the one in which it will find itself tomorrow.

In those industries that appear at any time to be monopolized, likewise, monopoly is constantly tending to break down. Human wants may be satisfied in many different ways. Shifts in consumer demand may rob the monopolist of his market. Invention may develop numerous substitutes for his product. In the words of Nourse and Drury:[45]

> The man who today tries to fence in an industrial highway and exact an exorbitant toll from those who would travel this road to consumer satisfaction is in danger of defeating himself. Under modern conditions of technology, applied science is likely to find other means of progress. The chemist will build a detour around him, the physicist will drive a tunnel under him, or a biological overpass will be devised.

The monopolist may suffer, too, from the lack of the stimulus to efficiency which is afforded by active competition. His originality may give way to inertia, his energy to lethargy. He may be inclined to play safe and let well enough alone. He is likely to devote more attention to the conservation of investment values than he does to the improvement of materials, machines, processes, and products. In such a situation vigorous competitors may arise to dispute his exclusive occupancy of the field. Government, finally, may intervene. Legislation may forbid practices that were once allowed. Enforcement may catch up with violations of the law. For one or another of these reasons, few of the great trusts that were formed near the turn of the century now possess anything approaching absolute monopoly power. But few of the fields that were then monopolized have become effectively competitive. Combinations have been dissolved, new competitors have arisen, and competition has been restored, only to give way to a succession of devices designed for the purpose of dividing markets and maintaining prices. Here, again, the lines of control are repeatedly broken and repeatedly reformed.

IS MONOPOLY INEVITABLE?

It is sometimes asserted, or assumed, that large-scale production, under the conditions of modern technology, is so much more efficient than small-scale production that competition must inevitably give way to monopoly as large establishments drive their smaller rivals from the field. But such a generalization finds scant support in any evidence that is now at hand.

It is true that there are advantages in size. The large plant can install big, expensive, and highly specialized machines, it can provide them in great numbers, and it can arrange them in the proportions and in the sequences that are most conducive to continuous processes and low costs. It can realize the economies that are to be

[45] Nourse and Drury, op. cit., p. 221.

obtained through a minute division of labor. It can utilize by-products, purchase in quantity, and secure credit on favorable terms. It can employ skilled managers and technical experts and spend large sums on experimentation and research. Superiority in these respects, however, pertains to the size of the operating unit; it does not necessitate the combination of several units under a common management. But even here certain advantages may be obtained. Vertical integration may insure a steady flow of materials and continuous access to markets. Horizontal combination may enable managements to specialize individual plants, to eliminate cross freights, to cut the cost of capital, to buy materials in even larger quantities, to advertise more widely, and to reduce the expense involved in making sales.

But size, both in the unit of operation and in the unit of control, has its disadvantages. A business may become so big that no man can manage it efficiently. It may present so many changing problems that no single mind can hope to comprehend them. It may be so vast, so scattered, and so diversified that no one can really know what is going on. Under these circumstances, the manager is forced to obtain his information from accounts and statistics, to issue orders from a distance, and to rely upon paper controls. He may be bogged down with memoranda, reports, and routine. He may hesitate to make decisions and waste time in interminable delays. His subordinates may be more concerned with their own advancement than with the welfare of the enterprise. They may be entangled in red tape. They may fail to act decisively because they fear to be reversed. They may shift responsibility to others and waste further time in lost motion and internal conflict. The whole organization may be beset with nepotism, political maneuvering, factional warfare, and petty jealousies. So efficiency may be sacrified to size and managements may grow lax or take refuge in inflexibility, resisting adjustment to changing conditions and refusing opportunity to new blood and new ideas.[46]

A business may be too small to realize the economies that are implicit in modern technology; it may be too large to be administered with competence. Between these extremes there may be a size of optimum efficiency. But this size will differ from industry to industry. It may change overnight with the development of new machinery, new processes, and new techniques of management. And no one can locate the optimum in any industry at any time with any certainty. It may even be that any one of several sizes will display

[46] Alfred P. Sloan, Jr., then president of General Motors, addressed a meeting of the company's sales committee on July 29, 1925, as follows:

"General Motors should be more progressive in this and other directions. In practically all our activities we seem to suffer from the inertia resulting from our great size. It seems to be hard for us to get action when it comes to a matter of putting our ideas across. There are so many people involved and it requires such a tremendous effort to put something new into effect that a new idea is likely to be considered insignificant in comparison with the effort it takes to put it across.

"I can't help but feel that General Motors has missed a lot by reason of this inertia. You have no idea how many things come up for consideration in the technical committee and elsewhere that are discussed and agreed upon as to principle well in advance, but too frequently we fail to put the ideas into effect until competition forces us to do so. Sometimes I am almost forced to the conclusion that General Motors is so large and its inertia so great that it is impossible for us to really be leaders.

"Perhaps it would be safest for us to let the other fellow take the initiative and then be satisfied to follow him as best we can. It seems a pity, however, that with our resources and ability we can't be a little more aggressive."

Quoted in Federal Trade Commission, Motor Vehicle Industry, p. 34.

the same efficiency. It cannot be said that the largest concern in an industry will invariably have the lowest costs or produce the highest profits.

A number of investigators have compared the profitability of large and small concerns. Summers, who examined the data for 1,130 American and Canadian corporations from 1910 to 1929, found that profits fell as investment rose; that they were highest in the smallest of 7 size classes in 5 among 9 industrial groups, in the intermediate classes in 4 other groups, and in the largest class in none of the groups; and that they were higher below the $2,000,000 size than above it in 9 groups, below the $5,000,000 size than above it in 8 groups, and below the $25,000,000 size than above it in 7 groups.[47] Bowman, who studied profits in 8 industries for the years 1914–25, found that the largest companies seldom realized the highest returns and that earnings could not be correlated positively with size.[48] The National Industrial Conference Board, after examining the profits of more than 4,000 manufacturing and trading corporations for 1918–25, found a smaller average investment in the most profitable group than among the corporations as a whole.[49] The Twentieth Century Fund, after analyzing corporate income tax statistics for 1919, found that the larger corporations earned less than the average of all corporations; that those with an investment of more than $50,000,000 earned the least, while those with an investment of less than $50,000 earned the most; and that earnings declined, almost uninterruptedly, with increasing size.[50] The Federal Trade Commission, in its study of 90 flour milling companies from 1919 to 1924, found the highest rate of return among concerns of medium size.[51] In another study covering 90 producers and 63 refiners of petroleum from 1922 to 1926, the Commission found the lowest profits among the largest firms and the highest among the next largest firms in the producing group, and lower profits among the largest than among the smaller firms in the refining group.[52] Crum, after examining corporate income statistics for 1926, found that the ratio of net income to total assets rose until profits reached $100,000, but did not increase significantly beyond that point.[53] Epstein, who studied the data for 2,046 manufacturing corporations from 1919 to 1928, found that those with an investment under $500,000 enjoyed a higher return than those with more than $5,000,000 and twice as high a return as those with more than $50,000,000.[54] Paton, whose inquiry covered 714 small and medium-sized manufacturing and trading corporations from 1927 to 1929, found the $50,000 to $200,000 asset class more profitable than the larger or smaller classes in manufacturing, the larger size classes more profitable than the smaller ones in 4 industrial groups and in 28 individual industries, and the smaller classes more profitable than

[47] H. B. Summers, "A Comparison of the Rates of Earnings of Large-Scale and Small-Scale Industries," Quarterly Journal of Economics, vol. 46, pp. 465–479 (May 1932).
[48] Raymond T. Bowman, A Statistical Study of Profits (Philadelphia, 1934), p. 102–122.
[49] National Industrial Conference Board, Shifting and Effects of Federal Corporation Income Tax, vol. 1 (New York, 1928), pp. 36–42, 222–224.
[50] Twentieth Century Fund, How Profitable Is Big Business? (New York, 1937), pp. 36–37.
[51] Federal Trade Commission, Competition and Profits in Bread and Flour (1928), pp. 430–432, 443–447.
[52] Federal Trade Commission, Petroleum Industry: Prices, Profits, and Competition (1928), pp. 296–297.
[53] William L. Crum, Corporate Earning Power (Stanford University, 1929), pp. 310–311.
[54] Ralph C. Epstein, Industrial Profits in the United States (New York, 1934), pp. 50–57, 131–138.

the larger ones in 2 groups and 26 industries.[55] Crum, in his analysis of corporate earnings for 1931, found that the highest return among profit-making concerns, in 6 out of 7 industrial groups and in 4 out of 5 manufacturing subgroups, was enjoyed by those with assets below $50,000.[56] The Twentieth Century Fund, after examining the statistics of corporate income for 1931–33, found that the largest among 9 size classes was the only one to show a profit and that the smallest suffered the heaviest loss. But among those concerns that did make profits, the smallest size class earned the highest rate and the largest earned the lowest rate. Among such concerns in 1932, the highest rate was earned by the smallest size class in the food, tobacco, rubber, printing, chemical, metal, transportation and public utility, and service industries, by the next smallest size classes in the mining, textile, leather, forest products, paper, and stone industries, and by the largest size classes only in construction, trade, and finance. The lowest rate was earned by the largest size class in the mining, food, textile, rubber, paper, printing, chemical, stone, metal, and transportation and public utility industries, by intermediate size classes in the tobacco, leather, forest products, construction, and service industries, and by the smallest size classes only in trade and finance.[57] Crum, in his latest study, covering the statistics for 1931–36, found that the profits of corporations as a whole improved with size, rising sharply until investment exceeded $1,000,000 and gradually thereafter. Profits in agriculture, trade, and finance, and in 8 among 13 manufacturing industries followed this pattern; but those in mining, construction, service, and public utilities, and in 5 manufacturing industries failed to advance or actually declined after an intermediate size was reached. Among profitable corporations, moreover, earnings declined as size increased, showing the highest rate in the smallest size class and the lowest rate in the largest size class in each of the years from 1932 through 1936.[58] The Federal Trade Commission, in an investigation which covered 64 producers of agricultural implements from 1927 to 1936, found that the large manufacturers of many lines earned far higher profits than the small manufacturers of a few lines, but that the second-largest of the long-line companies made higher profits than the largest one, while the medium-sized short-line companies made a better showing than their smaller or larger competitors.[59] The Women's Bureau of the Department of Labor, after obtaining information from 458 producers of millinery for 1937, found that the rate of profit on sales declined as the volume of sales increased, being only a third as high for firms with sales over $500,000 as it was for those with sales under $50,000.[60] The Wage and Hour Division of the same Department, on the basis of replies received from 120 manufacturers of knitted outerwear for 1938, found that in this industry also the ratio of earnings to sales fell as the volume of sales rose, being only a fourth as high on sales over $1,000,000 as it

[55] William A. Paton, Corporate Profits As Shown By Audit Reports (New York, 1935), pp. 4–5, 20–34, 42–43, 57, 73–76.
[56] William L. Crum, The Effect of Size on Corporate Earnings and Condition (Boston, 1935), pp. 15–16.
[57] Twentieth Century Fund, op. cit., ch. 5, 6.
[58] William L. Crum, Corporate Size and Earning Power (Cambridge, Mass., 1939), ch. 2–19, inclusive.
[59] Federal Trade Commission, Report on the Agricultural Implement and Machinery Industry (1938), pp. 593, 605–610.
[60] Women's Bureau, Conditions in the Millinery Industry in the United States, Bulletin No. 169 (1939), p. 113.

was on sales under $20,000.[61] These studies, of course, pertain only to the relationship between the size and the profitability of business entities. They throw little or no light on the relationship between size and efficiency, since profits may be derived from acquisitive advantage as well as from the reduction of costs. They provide no information on the comparative earnings or economies of combinations and independent establishments. They afford no basis for conclusions as to the relative profitability or efficiency of large and small plants. But they do make it abundantly clear that success, however achieved, is not always proportionate to the size of the business unit.

Other inquiries have dealt with the profit records of industrial combinations. Dewing, who studied 35 such combinations formed before 1914, found that 22 of them earned less in their first year than the companies composing them had earned in the year before they were combined; that they earned no more in their tenth year than they had in their first; and that the first-year and the tenth-year profits of the whole group were only four-fifths as large as those earned in the year before the consolidation of the constituent concerns.[62] The National Industrial Conference Board, after examining the record of 48 trusts between 1900 and 1913, found that none of them had produced substantial profits.[63] Livermore, who studied 328 mergers originating between 1888 and 1905, found that nearly half of them had proved to be successful during the following 30 years, while more than half had incurred losses or ended in failure.[64] The Twentieth Century Fund, taking a group of 109 large combinations over the years from 1900 to 1914, found that 16 of them had failed, that 24 of them had paid no dividends, and that 47 of them had paid less than 5 percent on the par value of their stock. Among 34 of these concerns for which the information was available, 25 had earned less than 6 percent on their stated capital.[65] These studies demonstrate that the attainment of size through mergers does not always produce higher profits. But, like those previously described, they afford little information on the relation of size to efficiency. In many cases, combinations have been formed less with a view to realizing economies in production than for the purpose of acquiring the immediate profits of promotion or the long-run profits of monopoly. One such concern may succeed in cutting costs and fail to make money because it has been overcapitalized or saddled with excess capacity. Another may fail to cut costs and succeed in making money because it enjoys advantages in bargaining or possesses monopoly power. Consolidation may enhance efficiency, but there is no evidence to support the view that it has usually done so. As Corwin Edwards has observed, "there is little reason to think that the union of two established plants will often make possible so close a dovetailing of processes or such a nice adjustment of facilities to

[61] Economic Section, Wage and Hour Division, Report on the Knitted Outerwear Industry (mimeo., 1939), pt. II, p. 62. A similar situation was found to obtain in several other apparel trades. For the latest study in this field see: Federal Trade Commission, Relative Efficiency of Large, Medium-Sized, and Small Business, Temporary National Economic Committee, Monograph No. 13.

[62] Arthur S. Dewing, "A Statistical Test of the Success of Consolidations," Quarterly Journal of Economics, vol. 36, pp. 84–101 (November 1921).

[63] National Industrial Conference Board, Mergers in Industry (New York, 1929), pp. 30–31, 36–41.

[64] Shaw Livermore, "The Success of Industrial Mergers," Quarterly Journal of Economics, vol. 50, pp. 68–96 (November 1935); "Have Mergers Been Successful?", Dun's Review, February 1937, pp. 16 ff.

[65] Twentieth Century Fund, op. cit., pp. 105–109.

markets as to lower costs of production" or that the creation of a common selling organization will prove to be "more economical in the social sense than specialized distribution through middlemen." [66]

Little is known concerning the relationship that may exist between the size and the efficiency of separate plants. The few studies that have been made in this field apply to minor industries where the typical scale of production is small. They do not afford an adequate basis for generalization.

The superior efficiency of large establishments has not been demonstrated; the advantages that are supposed to destroy competition have failed to manifest themselves in many fields. Nor do the economies of size, where they exist, invariably necessitate monopoly. These economies have to do with technology in production, power in bargaining, and competence in administration. Monopoly, on the other hand, has to do with the extent to which a single firm, or a group of firms acting in unison, controls the supply of a good or a service in a particular market. The size or the sizes of optimum efficiency may be reached long before the major part of a supply is subjected to such control. The conclusion that the advantages of large-scale production must lead inevitably to the abolition of competition cannot be accepted. It should be noted, moreover, that monopoly is frequently the product of factors other than the lower costs of greater size. It is attained through collusive agreements and promoted by public policies. When these agreements are invalidated and when these policies are reversed, competitive conditions can be restored.

THE PERSISTENCE OF COMPETITION AND MONOPOLY

In those industries where the nature of the product, the market, the supply of materials, and the technology of production is such as to encourage it, competition reasserts itself in the face of collusive agreements and restrictive legislation. Commodities that cannot be identified with their producers may be provided by many firms. Goods whose sale depends upon their style, articles of distinctive design, products that are made to order, and services that must be rendered in person, since they do not lend themselves to standardization, mechanization, or mass production, are likely to be sold by several establishments no one of which controls a major part of the supply. Markets that are large and those that are growing invite the entrance of numerous concerns. Markets so limited that a small scale of operations holds down the capital required for admission may also prove to be hospitable to newcomers. An abundance of materials and a wide dispersion of the sources of supply facilitate the erection of many plants. A technology that is simple presents no obstacle to new enterprises. Processes that depend upon highly skilled labor, those that resist mechanization, and those that permit a small establishment to produce at a low cost, since they do not necessitate a large investment in a single plant, favor the formation of a multitude of small concerns. Each of these factors contributes to the preservation of competitive conditions in a trade.

In other fields the characteristics of the product, the market, the supply of materials, and the technology of production are conducive

[66] Edwards, op. cit., p. 178.

to monopoly. A service whose adequate performance requires unified operation is better rendered by a single concern. Goods that can be standardized and manufactured in quantity lend themselves to mass production which, in turn, may sometimes lead to concentration of control. Products that can be associated with brand names may be removed, in some degree, from competition. The great width of markets for standardized, machine-made goods may enlarge the scale of production and thus increase the possibility of concentration. The narrowness of markets for the products of difficult and costly processes may deliver them into the hands of a few firms. Scarcity of materials and paucity of the sources of supply facilitate unified ownership. A technology which necessitates the acquisition of extensive properties, the construction of huge plants, and the installation of expensive equipment may prevent the establishment of new concerns. Ability to cut units costs by increasing the scale of production may reduce the number of competitors. Heavy fixed charges and fear of the consequences of competitive warfare may inhibit competition on the basis of price.

But monopoly cannot be attributed to natural factors alone. It is the product of formal agreements and secret understandings; of combinations, intercorporate stockholdings, and interlocking directorates; of the ruthless employment of superior financial resources and bargaining power; of unequal representation before legislatures, courts, and administrative agencies; of the exclusion of competitors from markets, materials, and sources of investment funds; of restrictive contracts and discriminatory prices; of coercion, intimidation, and violence. It is the product, too, of institutions of property which permit private enterprises to take exclusive title to scarce resources; of franchises, permits, and licenses which confer upon their holders exclusive privileges in the employment of limited facilities and the performance of important services; of patents which grant to their owners the exclusive right to control the use of certain machines and processes and the manufacture and sale of certain goods; of tariffs which exclude foreign producers from domestic markets; of statutes which exclude out-of-State producers and ordinances which exclude out-of-town producers from local markets; of legislation which limits output, fixes minimum prices, and handicaps strong competitors; and of inadequate enforcement, over many years, of the laws that are designed to preserve competition. In nearly every case in which monopoly persists, it will be found that artificial factors are involved.

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Work materials. No. 58. The men's clothing industry. J. W. Hathcock and others (1936 (?)); cited (n.) 39
Work materials. No. 69. Economic survey of the bituminous coal industry under free competition and code regulation. Fred E. Berquist and associates (1936); cited (n.) 25
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REFERENCES TO LITERATURE:
Abrahamson, Albert. The automobile tire, forms of marketing in combat (1938); cited (n.) 49
Alspaugh, Harold P., marketing of meat and meat products (1936); cited (n.) 183
Arnold, John R.: The fishery industry and the fishery codes (1936); cited (n.) 28
Association of Cotton Textile Merchants. Ten years of cotton textiles (1940); cited (n.) 32
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Berle, A. A., Jr. Investigation of business organization and practices (1938); cited (n.) 112
Berle, Adolf A., Jr., and Gardiner C. Means. The modern corporation and private property (1933); cited (n) 299
Berquist, Fred E., and associates. Economics survey of the bituminous coal industry under free competition and code regulation (1936); cited (n.) 25
Black, John D. The dairy industry and the A. A. A. (1935); cited (n.) 210
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Bowman, Raymond T. A statistical study of profits (1934); cited (n.) 311
Bureau of Agricultural Economics. Large-scale farming in the United States (1929); cited (n.) 20
Bureau of Fisheries. Fishery industry of the United States (1938); cited (n.) 27
Bureau of Foreign and Domestic Commerce. National income in the United States, 1929–35; cited (n.) 55
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Davis, H. B. Business mortality: the shoe manufacturing industry (1939); cited (n.) 45
Davis, Joseph S. Wheat and the A. A. A. (1935); cited (n.) 22
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Dun & Bradstreet. Wholesale survey, 1937, Reports 1, 3, and 4; cited (n.) 57
Editor and Publisher. International Yearbook Number, 1938; cited (n.) 61
Edwards, Corwin D. Can the antitrust laws preserve competition? (1940); cited (n.) 300
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Federal Communications Commission. Investigation of the telephone industry in the United States (1939); cited (n.) 83
Federal Coordinator of Transportation. Hours, wages, and working conditions in the intercity motor transport industries. Pt. 2. Motor-truck transportation (1936); cited (n.) 61
Federal Power Commission. Electric-rate survey. Rate series, 1935–39; cited (n.) 94
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Fortune Editors. Understanding the big corporations (1934); cited (n.) 108
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REFERENCES TO LITERATURE—Continued. Page
Gaumitz, E. W., and O. M. Reed. Some problems involved in establishing milk prices (1937); cited (n.) 121, 211
Gill, W. A., and others. The knitting industries; cited (n.) 37
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Report on certain economic aspects of the gypsum wallboard and plasterboard industry (1939); cited (n.) 163
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James, Clifford L. Industrial concentration and tariffs (1940); cited (n.) 111
Jones, Eliot. Trust problems in the United States (1926); cited (n.) 66
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Kennedy, S. J. Profits and losses in textiles (1936); cited (n.) 32
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Labor Department:
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Women's Bureau Bulletin 169. Conditions in the millinery industry (1939); cited (n.) 44
Leven, Maurice, H. G. Moulton, and Clark Warburton. America's capacity to consume (1934); cited (n.) 22
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Livermore, Shaw. The success of industrial mergers (1935); cited (n.) 313
Locklin, Philip. Economics of transportation (1938); cited (n.) 61
Long, Clarence D., Jr. Newsprint costs and competition (1940); cited (n.) 61
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Malott, D. W., and B. F. Martin. The agricultural industries (1939); cited (n.) 34, 187
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Moody, John. Truth about the trusts (1904); cited (n.) 65
Mosher, William E., and others. Electrical utilities (1929); cited (n.) 94
Myers, Robert J. Economic aspects of the production of men's clothing (1937); cited (n.) 40
National Bureau of Economic Research. Committee on prices in the bituminous coal industry. Report (1939); cited (n.) 24
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Evidence study No. 8. The cotton-garment industry (1936); cited (n.) 40
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Work materials No. 31. Fishery industry and fishery codes (1936); cited (n.) 28
Work materials No. 58. The men's clothing industry. J. W. Hathcock, and others; cited (n.) 39
Work materials No. 69. Economic survey of the bituminous coal industry under free competition and code regulation. Fred E. Berquist, and associates. (1936) cited (n.) 25
Work materials No. 70. Economic problems of the lumber and timber products industry. Peter A. Stone, and others. (1936); cited (n.) 23
Work materials No. 76. Price filing under N. R. A. codes. Enid Baird; cited (n.) 246
Work materials No. 80. The Knitting industries. W. A. Gill, and others; cited (n.) 37
Research and Planning Division:
Report and recommendation on wages and hours in fur manufacturing (1935); cited (n.) 44
National Resources Committee:
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New York State, Commission on revision of public service commissions law (1930); cited (n.) 95
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Ostrolenk, Bernhard, Electricity: for use or profit? (1936); cited (n.) 94
Pabst, William R., Jr. Monopolistic expectations and shifting control in the anthracite industry (1940); cited (n.) 180
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House committee examining gas and electric companies in Pennsylvania; proceedings (1929); cited (n.) 95
Plummer, Alfred. International combines in modern industry, ed. 2 (1938); cited (n.) 138

REFERENCES TO LITERATURE—Continued. Page
Pribram, Karl. Cartel problems (1935); cited (n.) 216
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Securities and Exchange Commission. Survey of American listed corporations:
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Southworth, Constant. The lumber industry and the N. R. A. (1934); cited (n.) 23
Stone, Peter A., and others. Economic problems of the lumber and timber-products industry. (1936); cited (n.) 23
Summers, H. R. Comparison of rates of earnings of large-scale and small-scale business. (1932); cited (n.) 311
Tariff Commission. Chemical nitrogen. Report 114, series 2. (1937); cited (n.) 114
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Synthetic organic chemicals: United States production and sales. Report 136, series 2. (1938); cited (n.) 111
Teper, Lazare. An economic analysis of the women's garment industry. (1937); cited (n.) 43
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——— and Walter F. Crowder. Structure of industry. (1940); cited (n.) 30, 32, 34, 301
——— and Ernest A. Tupper. The potash industry; report submitted to the Department of Justice (1940); cited (n.) 139
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The essential historical facts about sensitive and administered prices. (1938); cited (n.) 304
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